#### AN INTERNATIONAL STUDY OF NURSING PRACTICE IN THE HOME

# SESSION 01: BRIDGING CLINICAL PRACTICE AND INNOVATION IN HOSPITAL AT HOME

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**Background and Aims:** The International Home Care Nurses Organization (IHCNO) and the American Nurses Association (ANA) are collaborating on research to develop the Scope (knowledge and skills needed by nurses providing care in patients' homes) and Standards (principles to guide excellence) for home-based nursing practice from an international perspective. The aim of this study is to discover what is and what should be nursing practice provided to persons in their homes throughout the world. This research has implications for hospital-at-home nurses.

**Methods:** Two PhD researchers conducted a literature review of standards for homebased nursing to provide a baseline understanding of current guidelines. Quantitative and qualitative exploration is being conducted through a series of 4 sequential online surveys among expert home-based nurses representing clinical practice, administration, education and research. The study was IRB-reviewed and found exempt from IRB oversight before data collection began. The surveys are helping us to learn: 1) Current status of home-based nursing in the participants' countries, 2) What participants believe the scope of nursing should be in their countries, 3) What they believe standards of practice should be, and 4) What competencies should be associated with each of the standards.

**Results:** So far, 97 nurses have participated in Survey 1 and 91 in Survey 2. They represent 34 countries and all six geographic regions identified by the World Health Organization. Data collection for Surveys 3 and 4 are taking place the summer of 2024 with analysis by the end of 2024. In Survey 1, nurses described their roles, development of scope and standards, education, and certification for home-based nursing practice. Findings of Survey 2 included the values, characteristics, knowledge and skills nurses need to provide care in people's homes. They confirmed that home-based nursing is a distinct specialty area of practice that requires specialized education and skills.

**Conclusions:** The scope and standards of professional nursing practice are evolving to meet the needs of changing societies and different cultures. The results of this study will provide evidence for the Home-Based Nursing: Scope and Standards of Practice. This ANA-IHCNO document will guide home-based nurses including those who provide hospital-at-home care.

**Keywords:** Hospital-at-home nursing, Home-based nursing, Scope of home-based nursing practice, Standards of home-based nursing practice

# FLUID BOLUSES: A SAFE ALTERNATIVE FOR MAINTENANCE INTRAVENOUS FLUIDS IN HOSPITAL-AT-HOME

# SESSION 01: BRIDGING CLINICAL PRACTICE AND INNOVATION IN HOSPITAL AT HOME

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**Background and Aims:** Maintenance intravenous fluid(mIVF) is routine treatment for many patients. Traditionally, mIVF is run as a slow infusion between 12 to 24 hours to minimise risk of fluid overload. However, evidence on rate of mIVF in non-critically ill patients is sparse. This study describes the outcomes of non-critically ill hospital at home(HAH) patients who received mIVF via fluid boluses.

**Methods:** A retrospective cohort study was conducted of all HAH patients requiring mIVF from 1 May 2022 to 15 Nov 2023. Patients requiring intravenous fluids for hemodynamic instability were excluded. Patient baseline characteristics, mIVF indication, rate, average volume/weight/day, and clinical outcomes were obtained. Patients at risk of fluid overload were defined as: known heart failure, chronic kidney disease, frail(clinical fraility score(CFS) >/= 5), malnourished(weight under 40kg)). The primary outcome was development of fluid overload requiring subsequent diuresis.

**Results:** 166 patients required mIVF. 32 were deemed at-risk. The top two indications in the at-risk group for mIVF were hypovolemia - defined as acute kidney injury, hyponatraemia or postural hypotension with ongoing infection(44%) and dehydration via fluid losses(31%). Majority of patients in the at-risk group were given fluids at a rate of 500mL/60mins(40%) or 1L/60mins(34%). 81% of patients in the at-risk group received <20ml/kg/day of mIVF. 2 patients had complications of fluid overload. Both were CFS 7 with Charlson comorbidity index 8 and 4 respectively. Both only received 500ml and were later returned to hospital for desaturation. Both survived their stay.

**Conclusions:** Fluid boluses are a potential safe alternative for maintenance intravenous fluids.

Keywords: Hospital at Home, Maintenance intravenous fluids

# HOSPITAL AT HOME RAPID RESPONSE TEAM FOR PREVENTING EMERGENCY DEPARTMENT VISITS AND HOSPITAL ADMISSIONS IN CHRONIC AND ADVANCED PATIENTS: A CASE-CONTROL STUDY.

# SESSION 01: BRIDGING CLINICAL PRACTICE AND INNOVATION IN HOSPITAL AT HOME

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**Background and Aims:** A large proportion of patients admitted to Hospital at Home (HaH) are complex chronic patients (CCP) or advanced disease patients (ADP). Avoiding emergency department (ED) visits during exacerbations benefits both the patient and the healthcare system.

**Methods:** In 2021, Rapid Response Teams (RRT), comprising a physician and nurse, were established to evaluate patients at home within 4-24 hours, depending on triage. We compared CCP/ADP patients admitted via RRT with those admitted through the ED.

**Results:** We included 750 CCP/ADP patients (211 RRT and 539 ED). After matching for sex, age, comorbidities, Barthel Index, previous admissions, and oxygen needs, 211 patients from each group were analyzed (N=422). The average age was 84 in cases and 83.3 in controls. The mean Barthel Index was similar (53.08 vs 53.47). Mortality during HaH was 1.4% for cases and 0.9% for controls (P = .645). Transfer to hospital occurred in 5.3% of cases and 7.6% of controls (P = .332). Cases had fewer ED visits 30 days post-discharge (27.1% vs 38%, P = .018) and within 12 months (P = .029). No significant difference was found in 30-day (16% vs 18.8%, P = .464) or 12-month readmissions (P = .639).

**Conclusions:** The direct admission of CCP/ADP patients from primary care to HaH is not inferior to admission via the ED. The model reduces ED visits without increasing mortality or readmissions, demonstrating that it is a safe and effective alternative for managing complex patients at home.

**Keywords:** admission avoidance, Emergency avoidance, rapid resonse teams, complex chronic patients

# THE CLINICAL OUTCOMES OF A CANADIAN HOSPITAL AT HOME PROGRAM: A MATCHED COHORT ANALYSIS

# SESSION 01: BRIDGING CLINICAL PRACTICE AND INNOVATION IN HOSPITAL AT HOME

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**Background and Aims:** The safety and efficacy of HaH has been demonstrated by numerous studies; however, there is a paucity of data on Canadian HaH programs. This study evaluates the HaH program in Victoria, British Columbia to assess its feasibility, outcomes, and potential benefits, including hospital overcrowding relief and improved patient satisfaction.

**Methods:** A matched cohort analysis was conducted comparing patients from Victoria's HaH program to similar inpatients at Victoria General and Royal Jubilee Hospitals over nearly three years. Data from the Discharge Abstract Database (DAD) were used to match cohorts based on age, gender, comorbidities, and other factors. This method allowed for a rigorous comparison of clinical outcomes between HaH and traditional hospital care.

**Results:** Among 26,753 abstracts reviewed, 1,129 (4.2%) were HaH cases. HaH patients had a lower incidence of Hospital Harm (5.0% vs. 7.8%) and hospital-acquired delirium (0.8% vs. 2.0%) but higher fall rates (20.4 vs. 8.2 per 1,000). HaH patients were less likely to be discharged to a nursing home, had fewer Alternative Level of Care days (0.4% vs. 8.8%), lower readmission rates (9.1% vs. 13.7%), and lower 30-day mortality (1.0% vs. 2.8%). The Actual vs. Expected Length of Stay (LOS) ratio was significantly higher for HaH patients (1.59) than similar patients cared for in-hospital (1.19).

**Conclusions:** Victoria's HaH program offers a viable alternative to traditional hospitalization, with comparable or better outcomes in several key areas. The findings support the expansion of HaH programs to enhance healthcare delivery in Canada.

Keywords: Hospital at Home, patient, Quality Outcomes, Hospital Harm

# ENHANCING CANCER CARE THROUGH HOSPITAL IN THE HOME (HITH) PATIENT -REPORTED OUTCOME AND EXPERIENCE MEASURES (PRMS)

#### **SESSION 04 : PATIENT & CAREGIVER EXPERIENCE – PART 1**

**Background and Aims:** Our primary aim was to evaluate the feasibility of implementing Patient-Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs) within our Hospital in the Home (HITH) service for cancer patients. Secondary aims were to assess common patient concerns, effectiveness of interventions and identifying opportunities for future expansion and optimisation.

**Methods:** Patients were consecutively enrolled on admission to the HITH service over a 4 month trial period. Following informed consent, they completed a PROMs survey (PROMIS-29) on day 1 and again on day 6 to evaluate physical function, pain, social participation, fatigue, emotional distress, and sleep disturbance. A HITH redesigned PREM survey was administered on discharge and captured patient feedback on care, timeliness, safety, and overall satisfaction.

**Results:** Fifty patients were recruited with 64% completing the initial PROMs survey and 48% doing both. Pain (44%) and sleep disturbance (25%) were the most commonly flagged concerns. Between the two PROMs surveys, improvements were observed across all domains including pain (64%), and sleep (38%). Interventions required were primarily focussed on optimising analgesia, patient education, and psychosocial support. Over 80% of patients reported that completing PROMs surveys helped in managing their care needs. PREMs feedback was also overwhelmingly positive, with 82% of patients reported receiving timely and adequate support.

**Conclusions:** Integrating PROMs and PREMs into HITH for cancer patients is both feasible and effective. Important themes identified included pain control, anxiety and depression. Our results demonstrate that important improvements in patient outcomes and experience are achievable through early intervention focussed on symptom management and psychosocial support.

Keywords: experience, survey, outcome, patient, cancer

# QUALITY OF LIFE OF 130 PATIENT-CAREGIVER DYADS IN HOSPITAL-AT-HOME IN THE PARIS REGION. THE AQOLHAD STUDY

## **SESSION 04 : PATIENT & CAREGIVER EXPERIENCE – PART 1**

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**Background and Aims:** HAH provides high-level care for acute/chronic patients at home, avoiding conventional hospitalization. Informal caregivers play a central role in supporting HAH patients, but their quality of life (QoL) in this setting remains understudied.

**Methods:** In June-July 2023, the nursing staff requested that 130 HAH patient-caregiver dyads complete the EQ-5D-3L QoL questionnaire during home care visits. Additionally, caregivers self-reported their age, gender, employment status, living situation, and whether they had chronic illness or disability. Patient characteristics were obtained from the medical records.

**Results:** Almost all caregivers were close family members; 92.8% of those permanently resided with the patient and 74.2% were not/no longer working. 45.5% of those had chronic illness or disability. Compared with patients, caregivers were significantly younger (mean age 66.0 ± 15.1 vs. 72.0 ± 14.0 years) and were more often women (64.8 vs.53.1%). Although the overall QoL was greater among caregivers (mean EQ-5D VAS score 73.5 ± 21.8 vs. 47.2 ± 21.8), 19.7% of those had an EQ-5D VAS < 50 and 22% had an overall QoL score equal or lower than that of their relative in HAH. Caregivers QoL was more closely associated with their own characteristics (age, gender, chronic illness) than patients' factors.

**Conclusions:** This study indicates that caregivers QoL of HAH patients can be significantly compromised and underscore the need for more proactive and targeted caregiver support interventions. In our HAH, we have already implemented initiatives designed to enhance the psychological and social support available to caregivers. These actions will be presented.

Keywords: quality of life, Caregiver, patient-caregiver dyad, Hospital at Home

# HOW TO OVERCOME THE ABCENSE OF A FAMILY CAREGIVER IN AN AT HOME AUTOLOGOUS HEMATOPOIETIC TRANSPLANT (HCT) PROGRAM.

### **SESSION 04 : PATIENT & CAREGIVER EXPERIENCE – PART 1**

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**Background and Aims:** Caregivers in an at home program for complex hematological patients, such as those undergoing HCT are mandatory. The absence of a caregiver disqualifies these patients from home-based care programs, leading to increased hospitalizations, nosocomial infection risks, and higher healthcare costs. Due to an increasing shortage of family caregivers, an "alternative" caregiver program was established, managed by the "Formació i Treball" (FiT) Foundation in collaboration with our Home Care Unit (HCU) at Hospital Clínic de Barcelona.

**Methods:** The program started in 2020, focusing on training and employing individuals at risk of social exclusion as professional caregivers (PC) for HCT recipient patients. Our aim was to ensure equitability in inclusion for at-home HCT candidates lacking a family caregiver, as well as an improvement in employment conditions for PC. Funding was provided by "Fundación La Caixa", as a social project.

**Results:** Up to December 2023, 45 at home HCT recipient have benefited from the program, supported by 52 PC, leading to 132 job placements (Figure 1). Also, both patients and caregivers reported high satisfaction levels when asked about their experience. Caregivers valued the theoretical and practical training and considered the experience beneficial for enhancing their professional skills and

#### employability.



**Conclusions:** The project has significantly impacted patient care, ensuring equitable access to home-based services. Also this venture is a redefinition of a pioneering hospital service with a strong social component, which can address similar needs in hospitals throughout the state and in other countries, for patients who have undergone the same treatment and with similar needs.

Keywords: Caregiver, Hematology, ASCT

# VALIDATION OF PATIENT EXPERIENCE MEASURES IN HOSPITAL AT HOME PROGRAMS: THE HOSPITAL-IN-THE-HOME QUESTIONNAIRE (HHQ)

## **SESSION 04 : PATIENT & CAREGIVER EXPERIENCE – PART 1**

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**Background and Aims:** Understanding and learning from patient experiences is critical to patient-centred care. Consumer surveys of general healthcare and inpatient settings exist, but there is no validated patient survey of Hospital-in-the-Home (HITH) care, which is very different. This project aims to validate a questionnaire to measure patients and parent experience with HITH programs.

**Methods:** The survey was developed through a systematic process involving modifying questions from validated inpatient questionnaires and creating new items tailored to home-based/ambulatory settings. The draft survey was reviewed by the Paediatric HITH Improvement and Research Network (PHIRN) and HITH consumers. Content validity was established through expert HITH and consumer feedback. A structured validation process involving factor analysis, Cronbach's alpha, internal consistency assessment, and test-retest reliability is underway, in time for WHAHC 2025.

**Results:** Initial content feedback was obtained from 8 PHIRN members (medical/nursing/allied health) and 8 consumer families. It supported the need for a survey and resulted in minor revisions to improve relevance and clarity. The questionnaire is currently being sent to 100 further adolescents and parents. Factor analysis will confirm its ability to measure distinct aspects of experiences. Cronbach's alpha will determine internal consistency and any redundant questions. Test-retest reliability will assess stability over time. The authors anticipate the survey will be identified as a reliable and valid tool for assessing experiences in HITH settings.

**Conclusions:** A robust validated survey is essential to capture voices of patients/families on HITH. Expert and consumer input, and rigorous validation, will ensure its utility in improvement initiatives across services providing clinical care at home.

**Keywords:** Patient reported experience, Hospital at Home care, Validated survey, Home care, Acute

# BEYOND THE GOOD DOCTOR: CULTURE CHANGE, ACCOUNTABILITY, AND SUCCESS FACTORS FOR SCALING HOSPITAL AT HOME

#### **SESSION 05: EDUCATION, TRAINING AND WORKFORCE – PART 1**

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**Background and Aims:** Hospital at Home (HaH) offers an effective alternative to traditional inpatient settings. Sacling HaH requires more than clinical acumen; success hinges on systemic culture change and leadership accountability. This talk explores how different health system archetypes—academic, regional, and community hospitals—can adopt HaH by focusing on leadership buy-in and cultural transformation.

**Methods:** An operational assessment and intake evaluation framework was developed to analyze health systems' readiness for HaH scaling. Health systems were categorized into three archetypes: academic centers, regional health systems, and community hospitals. Evaluations included staffing models, care coordination processes, and logistical capabilities. Interviews with senior leadership teams were conducted to assess their support for HaH as a core business model. Senior leaders from successful systems brought in to share learnings both clinical and operational and interventions focused on systems' ability to foster accountability and execute the required cultural changes for effective HaH operations.

**Results:** Health systems with strong senior leadership support as well as bidirectional accountability (home/command center-based teams and hospital based teams) for HaH as a default mode of care were more successful in scaling operations. Academic centers had robust frameworks but faced resistance to operational changes. Regional systems showed agility in shifting to HaH, while community hospitals benefitted from a patient-centric focus but lacked resources for rapid scaling without external support.

**Conclusions:** The most critical factor for scaling HaH is cultural transformation within health systems. Leadership commitment and accountability drive operational success, making senior buy-in essential for integrating HaH into standard care models.

Keywords: culture change, Transformation, accountability

# CORE HOSPITAL-AT-HOME COMPETENCES FOR STAFF; NORDIGHE - A NEW COMPREHENSIVE NORDIC EDUCATION

#### **SESSION 05: EDUCATION, TRAINING AND WORKFORCE – PART 1**

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**Background and Aims:** Healthcare systems in Nordic countries are under pressure from systemic and demographic changes, prompting a push for digital transformation. Hospital-at-home (HaH) is a key component, offering a full at-home substitute for traditional inpatient care, potentially benefiting eligble patients, relatives, staff, and organizations. However, implementation is challenging, and few evidence-based HaH models exist in the Nordic countries. Enhancing staff competencies for digital healthcare is crucial, but comprehensive HaH education is lacking.

**Methods:** To mitigate this challenge, the Nordic Digital Health & Education (NorDigHE) consortium was initiated in mid-2023 to develop a HaH education for Denmark, Norway, and Sweden. The consortium, funded by a regional EU grant, includes hospitals, universities, and nursing schools. The program targets both pre- and post-graduate health professionals and will be primarily digital, online, and asynchronous for scalability. It consists of five modules: admission in the home, communication, e-health competences, technology, and quality improvement in HaH models. These modules will use various educational tools, including simulation and gamification.

**Results:** The consortium has defined the structure of the proposed education, identified learning needs, and developed a core set of competencies for HaH. A prototype curriculum and content for the five modules, including simulation products and learning games, have been created. An extensive research and testing portfolio, including an education design test in the three countries and a multicenter RCT in the hospital sector are underway.

**Conclusions:** The NorDigHE education development is progressing well and aims to create a relevant and necessary HaH education program for the Nordic countries, with potential global interest.

Keywords: Hospital-at-home, NorDigHE consortium, Staff competences, Education

# CLINICIAN EXPERIENCE DURING HOME HOSPITAL FOR ADULTS LIVING IN RURAL SETTINGS: A QUALITATIVE ANALYSIS OF A RANDOMIZED CONTROLLED TRIAL

## **SESSION 05: EDUCATION, TRAINING AND WORKFORCE – PART 1**

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**Background and Aims:** We completed an international randomized controlled trial (RCT) of home hospital (HH) in three rural sites in the U.S. and Canada to demonstrate the efficacy of rural home hospital (RHH) compared to brick-and-mortar hospitalization (BAM). Little research has explored the perceptions and professional experiences of HH clinicians.

**Methods:** We conducted qualitative, semi-structured interviews with clinicians (nurses, paramedics, physicians, and advanced practice providers) who coordinated and delivered RHH care during the RCT. We conducted interviews until saturation and analyzed using grounded theory and thematic analysis.

**Results:** Through 16 interviews, we found that clinicians held overall favorable perspectives toward RHH. RHH clinicians reported a high degree of satisfaction and professional fulfillment. Compared to BAM, HH was associated with more agency along with reduced occupational stress. Clinicians reported meaningful relationships with patients and caregivers, including an improved therapeutic connection when patients could be contextualized within their home. The quality of care and safety was perceived to be comparable to BAM and was enabled by team coordination and monitoring technologies. Clinicians cited psychosocial and clinical benefits for the patient and family, including improved comfort, engagement with care, and physical activity. Challenges included institutional buy-in, coordination of care, and internet connectivity.

**Conclusions:** Clinicians described positive perceptions towards HH compared to BAM, including improved patient experiences and robust quality of care. Additionally, there were high levels of professional fulfillment and satisfaction, which may help mitigate burnout. HH may offer an opportunity to enhance clinician wellbeing and should be further examined in future investigations.

**Keywords:** rural health, clinician experience, randomized controlled trial, rural home hospital

# DEVELOPMENT OF TAIWAN'S CONTEMPORARY CONSENSUS ON POINT-OF-CARE ULTRASOUND FOR AT-HOME HOSPITALIZATION: A THREE-YEAR REPORT

#### **SESSION 05: EDUCATION, TRAINING AND WORKFORCE – PART 1**

#### <u>Hung Bin Tsai</u>

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**Background and Aims:** Following the COVID-19 pandemic, the demand for telemedicine surged, leading the Taiwan National Health Insurance Administration to launch a pilot program in July 2024, promoting at-home hospitalization for acute infections. This initiative fostered the development of a patient-centered home care model integrated with specialist teleconsultations. This study highlights the collaboration between hospitals, and a home care team to develop educational materials for point-of-care ultrasound (POCUS) at home, demonstrating cross-professional efforts to establish a consensus.

**Methods:** Between December 2022 and September 2024, the Taiwan Society of Home Health Care, in collaboration with one medical center, one regional hospital, and the Dulan Home Clinic team, gathered hospital-at-home care cases and held expert meetings. These meetings systematically explored the clinical indications, operational contexts, standardized protocols, and future advancements.

**Results:** Across 7 expert meetings, discussions involved 2 hospitalists, 1 emergency physician, 2 cardiologists, and 2 physicians from the Clinic. A total of 15 home care cases were reviewed, with the core materials organized into three chapters: Chapter 1: An overview of the development of POCUS at home and its clinical indications. Chapter 2: A presentation of 6 typical patient cases, 13 symptom assessments, and examples of ultrasound-assisted ascites drainage. Chapter 3: An introduction to the E-FASH protocol, the process for conducting POCUS at home via teleconsultations and family conferences based on shared medical decision-making. It also highlights the importance in medical education.

**Conclusions:** This consensus, grounded in the patient journey perspective, refines execution details and contributes to disruptive innovation, building a comprehensive, patient-centered model for hospital-at home.

**Keywords:** point-of-care ultrasound at home, Hospital at Home, teleconsultation, shared decision making, Medical Education

## A ROADMAP TO INCREASE HAH ACTIVITY AND PERFORMANCE IN FRANCE

### **SESSION 08: SCALING HAH**

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**Background and Aims:** In 2023, 168.000 patients were hospitalized at home in France, cared for by 293 HaH (a 5.7% of increase compared to 2022). There are large differences between activities and sizes among hospitals at homes (from 20 patients up to 2.000 a day for the biggest). The French National Agency for care performance (Anap) organized a study to identify the levers and barriers to the development of home hospitalizations. It focused on the public HaH (attached to a public hospital) that were the smallest.

**Methods:** • Exploratory phase with 6 representative HaH. For each of them an audit of the territory, the activity and a visit were organized. • The answers to a survey sent to 114 HaH were analyzed qualitatively and quantitatively (SPHINX software).

**Results:** • The size is a limiting factor: the smaller HaH < 30 patients/day are progressing less and are more often in deficit. • The public hospital's governance had insufficient knowledge of the piloting the HaH activity and hence had no specific strategy for developing • The admission delays were lagging compared to independent HaH • The HaH were not integrated enough in the care pathways of the patients. • The support infrastructure was not adjusted to the HaH specificities (logistics, information system, pharmacy).

**Conclusions:** To support the development of these necessary HaH, the Anap set up a program. Since April 2024, 90 voluntary HaH have started to work on their performance. They will take part in a 4-day workshop to create a concrete plan to increase their activity.

Keywords: hah, performance, development, health care, France

# SCALING UP HOSPITAL-AT-HOME: AN 18-MONTH OBSERVATIONAL STUDY USING IMPLEMENTATION FRAMEWORKS IN SINGAPORE

### **SESSION 08: SCALING HAH**

<u>Stephanie Ko</u><sup>1</sup>, Shi Yun Low<sup>2</sup>, Nick Sevdalis<sup>3</sup> <sup>1</sup>National University Hospital, , Singapore, <sup>2</sup>National University Health System, , Singapore, <sup>3</sup>National University Singapore, , Singapore

**Background and Aims:** Majority of HaH studies evaluate effectiveness rather than the complexities of scaling up. This study utilises a theory-driven protocol for evaluate the scaling up of a HaH intervention in Singapore, integrating the EPIS framework and the Scale-Up framework to evaluate the factors influencing the expansion process.

**Methods:** This observational cohort study was conducted over 18 months (May 2022 to Oct 2023) during the scale up of a HaH program in Western Singapore. The objective was to evaluate the impact of inner and outer contextual factors on key implementation outcomes, including patient volume, operational efficiency, and adoption levels.

**Results:** Over 18 months, 881 patients were admitted, as the service increased from 6 to 25 bed capacity. Reach (defined as patients discharged from HaH / hospital) increased from 2 to 48 per 10,000 patients. Operational efficiency (defined as bed occupancy rate) increased from 8 to 63%. Adoption (defined as patients referred to HaH / number of patients discharged from hospital) increased from 28 to 128 per 10,000 patients. Referral acceptance was relatively unchanged from 52% to 47%. Return to hospital rates fluctuated initially and stabilised between 8-12%. Implementation activities documented included those addressing inner contextual factors (e.g. setting up an independent unit, appointing key leadership roles) and those addressing outer contextual factors (e.g. advocating for healthcare financing and policy shifts).

**Conclusions:** The study studies implementation and clinical outcomes as HaH scales, and the associated implementation activities. Future research should focus on refining strategies to maintain and enhance the scale-up process while mitigating observed challenges.

Keywords: Hospital at Home, implementation science, scale up

## HOSPITAL AT HOME: IF YOU CAN'T SCALE, YOU'LL FAIL

## **SESSION 08: SCALING HAH**

## Colleen Hole<sup>1</sup>, Daniel Davis<sup>2</sup>

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**Background and Aims:** Though Hospital at Home programs have been in existence across the globe for a few decades, most of the currently operating programs have launched over the past 4+ years, largely in response to the COVID-19 pandemic. As hospitals struggled with managing the huge influx of COVID-19 patients, some already capacity strained, Hospital at Home proved an effective strategy for managing acute care capacity. Now that COVID-19 admissions are down significantly, health systems must re-define their business case in order to grow and maintain a viable program.

**Methods:** Knowledge, understanding and beliefs gleaned from launching and running the largest Hospital at Home program in the United States, with over 12,000 patients to date and an average daily census of 60, with plans to scale to 100 over the next few months (as of 9/10/24).

**Results:** By intentionally aligning Hospital at Home to key health system strategies, such as capacity management, health equity, rural health and senior care, Hospital at Home has remained a system priority, starting with the C-suite, through administrators, managers and front-line teammates. This alignment has assured the long-term support and viability of the program. In addition, continually identifying new use cases and patient populations has kept the program relevant and impactful for the system.

**Conclusions:** Hospital at Home has been successful in supporting health system strategic goals, as well as achieving excellent clinical and operational outcomes.

Keywords: Hospital at Home, Business Case, Strategic Alignment

# ANALYSIS OF A STATE MEDICAID'S EXPERIENCE WITH HOSPITAL-AT-HOME IN THE UNITED STATES

### **SESSION 08: SCALING HAH**

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**Background and Aims:** Evidence regarding Hospital at Home (HaH) for traditionally marginalized populations in the U.S. is limited but encouraging. We describe preliminary characteristics and outcomes of HaH patients enrolled in Massachusetts Medicaid, which provides government-sponsored health insurance for over 2-million low-income and disabled individuals.

**Methods:** We included members who were admitted to HaH from November 2020 to September 2023 at four of the state's hospitals, using claims data from Medicaid and electronic health record data from the hospitals.

**Results:** We studied 949 HaH episodes during the 35-month period. Patients had a mean age of 64, 60% were female, and 48% were white. Primary spoken languages were English (62%), Spanish (26%), and others (12%). Patients were covered either by Medicaid only (38%), Medicaid and Medicare (57%), or Medicaid and commercial insurance (5%). The most common reasons for admission were heart failure (15%), septicemia and disseminated infection (11%), respiratory infection (9%), and kidney or urinary tract infection (9%). Average length of stay was 5.7 days. Disposition was home (60%), home with skilled home health services (33%), skilled nursing facility (4%), hospice (2%), or other (1%). Care escalation occurred in 10% of episodes; during-hospital mortality was 0.3%.

**Conclusions:** Preliminary analyses suggest that HaH can be provided effectively at scale to traditionally marginalized populations with satisfactory safety. Cost and utilization data are forthcoming. Partnership between payers and HaH hospitals can provide monitoring and evaluation of HaH services in order to provide needed information to inform future policy.

Keywords: Medicaid, Centers for Medicare and Medicaid, insurance, underserved

# OPPORTUNITIES AND CHALLENGES IN DELIVERING TECH-ENABLED HOSPITAL AT HOME CARE

## SESSION 09: TECHNOLOGY AND HAH - PART 1

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**Background and Aims:** Technology is critical to the delivery of acute care whether in the hospital or at home. However, most acute care technologies are not designed for home use. This study explores the current challenges and opportunities in using technologies to deliver hospital at home (HaH) care.

**Methods:** We developed a descriptive quantitative survey to understand challenges and opportunities with current and emerging technologies for HaH. The survey includes both open-ended questions and multiple-choice rankings and focuses on five core areas: virtual visits, patient identification, remote patient monitoring (RPM), clinical care team coordination, and supply chain management. We will survey experts from the HaH Tech Council and the US-based Hospital at Home Users Group (HAHUG). Experts will provide insights on current technology deployed, identify gaps affecting effectiveness, and suggest innovations to address these challenges.

**Results:** The survey will be distributed to these groups from October to November 2024. We aim to collect 50–100 responses from HaH experts across the U.S., gathering information on technology-based challenges related to virtual visits, patient identification, RPM, clinical care team coordination, and supply chain management. We will summarize the responses to generate knowledge that advances technologyenabled HaH.

**Conclusions:** Insights from this survey will provide a comprehensive understanding of technological challenges and opportunities in HaH. The findings will identify specific features and solutions to address gaps, improve patient outcomes, and enhance the scaling of the HaH care model. Results will inform strategic planning and implementation of technology solutions among HaH clinicians and will be shared with relevant industry and government stakeholders.

**Keywords:** technology-enabled HaH, telemedicine, Supply Chain Management, clinical team coordination

# HEALTHCARE PROVIDERS' EXPERIENCES AND PERCEPTIONS WITH TELEHEALTH TOOLS IN A HOSPITAL-AT-HOME PROGRAMME: A MIXED METHODS STUDY

### **SESSION 09: TECHNOLOGY AND HAH – PART 1**

### Shi Yun Low<sup>1</sup>, Ian Ang<sup>2</sup>, Stephanie Ko<sup>1,3</sup>

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**Background and Aims:** Virtual consultations and remote vital signs monitoring are integral tools for enhancing healthcare provider efficiency and patient safety in Hospital-at-Home (HaH) programmes. However, studies examining healthcare providers' experiences and perceptions regarding these tools are limited. This study aims to explore healthcare providers' experiences and perspectives towards virtual consultations and vital signs monitoring systems within a HaH programme in Singapore.

**Methods:** A convergent mixed-methods approach was employed, combining qualitative in-depth interviews with an electronic survey based on the five domains of the Telehealth Usability Questionnaire (TUQ): usefulness, ease of use, effectiveness, reliability, and satisfaction.

**Results:** A total of 37 surveys and 20 interviews were completed. Participants rated both virtual consultations and vital signs monitoring positively, with mean TUQ scores of 4.55 (SD 0.44) and 4.52 (SD 0.42), respectively. Doctors reported significantly higher mean ratings for usefulness (P=.032) and ease of use (P=.047) in virtual consultations compared to non-doctors. Healthcare providers with fewer years of clinical experience found remote vital signs monitoring more effective (P=.021) and more usable (P=.035) than their more experienced counterparts. Qualitative analysis revealed four themes: positive experiences (improved work convenience, efficiency, and satisfaction), negative experiences (communication and technology challenges), perceptions of telehealth benefits and risks, and enablers for successful implementation. Comparing both datasets, qualitative findings were aligned with and confirmed quantitative findings.

**Conclusions:** This study highlighted the benefits and usability of telehealth among healthcare providers. However, challenges relating to patient communication, technological issues, and delivery of care were also discussed along with enablers for successful implementation.

**Keywords:** Telehealth usability, Healthcare provider experience, Virtual consultation, Remote vital signs monitoring, Mixed methods

# HD SIGNAL – INTELLIGENT PLATFORM FOR SIGNALING PATIENTS TO HOME HOSPITALIZATION

### **SESSION 09: TECHNOLOGY AND HAH – PART 1**

Nuno Pinho, <u>Lidia Rodrigues</u> ULSTS, Hospital At Home, Portugal

**Background and Aims:** Introduction: HD SignaL is an Intelligent Platform for Signaling patients to Home Hospitalization, under development by the professionals of the Home Hospitalization Unit (HD) and the Information Systems of the Tâmega e Sousa Local Health Unit, Portugal, together with the engineering department of the Minho University. It uses artificial intelligence models, developed through algorithms based on ICD10 codes and a geographical distance of 30 minutes, implemented using machine learning techniques that automatically signal and present patients through a HD dashboard.

**Methods:** Objective: To present the preliminary results obtained through the platform and demonstrate the efficiency achieved. Methods: Exploratory analysis of the first 8 months, between January 15 and August 15, 2024.

**Results:** In the period under review, the query read 4637 patients, of which 1026 were eligible and automatically flagged for meeting defined criteria. Of these, 911 were refused and 115 admitted which corresponds to 50% of the patients hospitalized in the period. Of the patients refused, 694 by clinical criteria; 103 by social criteria; 66 by transfer abroad; 36 by geographic criteria due to outdated address; 12 patients refused. On average, 22 patients were daily evaluated by the platform, with an average selection time of 22 minutes by the professional for subsequent personnel evaluation.

**Conclusions:** Conclusion: With this platform, we have already been able to demonstrate improvements in access, as well as technological efficiency and technical efficiency. For the future, we intend to continue to develop this solution, scrutinizing and integrating new ICD10 codes and new variables into the model.

Keyword: HD SignaL

## BRIDGING HOME AND HOSPITAL: INTEGRATING HOSPITAL AT HOME INTO EPIC

# SESSION 09: TECHNOLOGY AND HAH - PART 1

Khos Sultani<sup>1</sup>, Marian Smeulers<sup>2</sup>

<sup>1</sup>Amsterdam UMC, Internal Medicine, Netherlands, <sup>2</sup>Amsterdam UMC, Samen Digitaal, Amsterdam, Netherlands

**Background and Aims:** In this session, we will share our journey to fully integrate the Hospital at Home workflow into our EMR (EPIC). Our experience and various exchanges have shown that this is a major challenge, often leading hospitals to rely on external applications. We will discuss the obstacles faced, the (organizational) solutions implemented, and the benefits achieved, providing insights and practical advice for other institutions aiming for similar integration.

**Methods:** For this session, we propose a presentation followed by a panel discussion. This format will allow us to visually showcase our journey and the key steps involved in integrating the Hospital at Home workflow into our EMR (EPIC). A presentation will facilitate focused discussions and direct interactions with attendees, enabling an effective exchange of insights and practical advice. We suggest a duration of 45 minutes would be ideal to present our findings and engage in meaningful dialogue with participants.

**Results:** Learning objectives - Comprehend the Integration Process of Hospital at Home into our EMR (EPIC) Attendees will understand the detailed steps and strategies involved in integrating the Hospital at Home model into the EPIC electronic medical records system. - Identify and Overcome Common Challenges Participants will learn about the common challenges faced during the integration process and the practical solutions used to overcome these obstacles. - Recognize Best Practices for Successful Implementation Attendees will be equipped with best practices and actionable insights to ensure a smooth and effective implementation of the Hospital at Home model in their own institutions.

## Conclusions: See results section

Keywords: Virtual Ward, Healthcare innovation, EPIC (EMR) integration, Telemonitoring

# A NEW FRONT DOOR FOR HOSPITAL IN THE HOME- EMERGENCY HOSPITAL IN THE HOME (EHITH) AND METHODS OF CARE

## SESSION 14: HAH SUPPORTIVE AND RELATED MODELS OF CARE- PART 1

<u>Annmarie Crozier</u><sup>1,2</sup>, Ramya Rajkumar<sup>2</sup> <sup>1</sup>Sydney Local Health District, Hospital In The Home, Australia, <sup>2</sup>Sydney Local Health District, Emergency Hith, Australia

**Background and Aims:** To describe the patients reviewed and how Emergency Hospital in the Home (EHITH) has provided acute care at home and on-referred a significant proportion of patients to our Hospital in the Home (HITH) service.

**Methods:** EHITH assessed acutely unwell older patients. Comprehensive assessment guided diagnosis, treatment and onward referral. Retrospective analysis of 66 weeks of activity was performed in RedCap and Microsoft Excel.

**Results:** EHITH has reviewed 673 patients: 55% were female, median age was 84 years (IQR 76-90) and 42.2% were culturally and linguistically diverse. 41.6% of patients lived without carer support. Key referral sources were paramedics (34.4%), Residential Aged Care Outreach (18.2%) and general practitioners (13.4%). EHITH review led to 606 (90%) patients avoiding hospital presentation. The commonest referral reason was being generally unwell (14.7%) then pain (12.8%), wound care (12%), respiratory illness (11.6%) and confusion (11.3%). Seventy percent of patients were frail (Clinical Frailty Scale  $\geq$  5) and 55.9% were cognitively impaired. Median visit time was 60 minutes (IQR 45-75). Point of care testing (19.8%), laboratory testing (73.3%), electrocardiography (5.3%) and mobile imaging (23.5%) supported clinical decision-making. Patients were referred to HITH (133; 19.8%). HITH is now managing a wider range of patients and their co-morbidities with this new front door referral service .

**Conclusions:** HITH has a 20-30% on referral rate from EHITH. Clinical assessment and mobile investigations were undertaken to provide comprehensive care to acutely unwell older people in their own homes and avoid Emergency. Age, frailty, and needing investigations did not preclude providing care at home.

Keywords: HITH, EHITH, Emergency, Frailty

# INTERVENTIONS AND STRATEGIES TO IMPROVE PRE-EMERGENCY CARE AND REDUCE ED OVERCROWDING: A QUALITATIVE META-SYNTHESIS

## SESSION 14: HAH SUPPORTIVE AND RELATED MODELS OF CARE- PART 1

<u>Crystal Chua</u><sup>1</sup>, Shuo Ji<sup>2</sup>, Hui Wen Kok<sup>2</sup>, Yi Feng Lai<sup>1</sup> <sup>1</sup>MOH Office for Healthcare Transformation MOHT Private Limited, , Singapore, <sup>2</sup>National University of Singapore, , Singapore

**Background and Aims:** Background: Emergency departments (EDs) face challenges of crowding, extended waiting times, and cost containment. Hospital-at-Home (HaH) and Pre-Emergency Care (PEC) innovations can decentralize care and reduce ED burden. While PEC interventions is promising, a qualitative synthesis is needed to explore the complexities of their implementation and identify future directions to complement HaH. Aim: This review aims to consolidate the experiences, and perceptions that influence the success and challenges of PEC interventions.

**Methods:** A search of six electronic databases (CINAHL, Embase, PsyINFO, Pubmed, Scopus, Web of Science) from inception to July 2024 was conducted. Quality was assessed using the Critical Appraisal Skills Program tool, and thematic synthesis was conducted following Sandelowski and Barroso's approach.

**Results:** From 15,776 records, 22 articles were included. Four themes derived: 1) technology-driven, specialized units, and community-based interventions, 2) perceived benefits of PEC interventions, 3) challenges in PEC implementation, and 4) key drivers for successful PEC innovations.

**Conclusions:** Conclusion: Strategies like telemedicine, virtual care, and community support were used to improve PEC and redirect patients. Both PEC and HaH focus on delivering care outside traditional hospital settings, either in the community or at home. Supported by telehealth, integrating PEC with HaH can help manage stable patients at home and reduce ED burden. Timely care access and collaboration with community healthcare professionals are crucial. Implementing real-time updates and patient data access can reduce delays. These insights can guide the integration of HaH with PEC to ease ED pressures and ensure appropriate patient care.

**Keywords:** pre-emergency care, strategies, qualitative meta-synthesis, perceptions, experiences

## HOSPITAL AT HOME PHARMACY SERVICES – A NOVEL INITIATIVE IN SINGAPORE

## SESSION 14: HAH SUPPORTIVE AND RELATED MODELS OF CARE- PART 1

Zhi Xin Wong<sup>1,2</sup>, Jamie Leong<sup>2</sup>, Deborah Chia<sup>2</sup>, Charmaine See<sup>2</sup>, Jiale Lei<sup>2</sup>, Yan Yi Lim<sup>2</sup>, Shi Yun Low<sup>3</sup>, Natasha Zulkefli<sup>3</sup>, Stephanie Ko<sup>4</sup> <sup>1</sup>National University Health System at Home (NUHS@Home), Pharmacy, Singapore, <sup>2</sup>National University Hospital, Pharmacy, Singapore, <sup>3</sup>National University Health System, , Singapore, <sup>4</sup>National University Hospital, Department Of Medicine, Singapore, Singapore

**Background and Aims:** The Hospital-at-Home program is gaining traction in Singapore to provide acute care to patients in the comfort of their homes. However, the scope of pharmacy services differs between different institutions and remains poorly defined. This study aims to illustrate the pharmacy services provided under NUHS@Home, assess the patient-contact time taken, and modes of contact utilized.

**Methods:** A retrospective analysis was performed on pharmacy service records for patients admitted to NUHS@Home from February to July 2024. Data was retrieved electronically and manually evaluated on number and types of pharmacy service provisions, interventions, time spent and modes of contact (telephone consult, video consult, messaging and in-person counseling).

**Results:** There is a total of 832 patients recruited from February to July 2024, of which 1540 individual pharmacy reviews were recorded, with documentation done for 1069 of them. Telephone consultation accounted for majority of the mode of contact at 87.6%, while transfer counseling and medication reconciliation formed the bulk of the patient counseling at 37.5%. The average time taken to counsel the patients on admission and medication reconciliation, discharge counseling, and in-flight medication counseling were 10.7, 7.9, and 6.4 minutes per episode respectively. A total of 258 medication interventions were also documented.

**Conclusions:** This study reflected an extensive role for the NUHS@Home pharmacist in providing patient counseling and medication review, which underscores the potential for expanding pharmacy role in home-hospital care,. Effective use of telehealth in consultation is also prevelant. Future efforts should focus on reviewing these services to track patient outcomes and enhance the effectiveness of the program.

**Keywords:** Hospital at Home Pharmacy, Hospital in the Home Pharmacy, Medication, Pharmacy, Home Hospital Pharmacy

# HEPATOLOGY AT HOME; A NOVEL PATHWAY FOR THE INTEGRATED MANAGEMENT OF PATIENTS WITH LIVER DISEASE

## SESSION 14: HAH SUPPORTIVE AND RELATED MODELS OF CARE- PART 1

<u>Tamsin Cargill<sup>1,2</sup></u>, Samuel Mills<sup>2</sup>, Bryony Chapman<sup>2</sup>, Victoria Wharton<sup>2</sup>, Jeremy Cobbold<sup>1</sup>, Daniel Lasserson<sup>2,3</sup>

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**Background and Aims:** Hospital admissions and deaths due to chronic liver disease are increasing, leading to calls for increased community care. We developed a Hepatology at Home service to provide clinical review, point of care diagnostics (including point of care ultrasound (POCUS)) and intravenous (iv) medications at home to such patients, to reduce hospital attendances.

**Methods:** Data on clinical processes of care and outcomes for patients referred to the Hepatology at Home service from the 27<sup>th</sup> of April 2024 onwards were prospectively collected.

**Results:** 16 patients (n=3 female, median age 65) were treated with 25 episodes of care with a median follow up of 62 days since initial assessment. Most patients (n=14, 88%) had cirrhosis decompensated with ascites and n=10 (63%) were known to community palliative care. The most common reason for referral was for diuretic management (n=15, 60%) and 44% (n=11) required POCUS. Interventions in the home included ascitic tap (n = 2), iv diuretics (n = 4), iv antibiotics (n = 5), iv iron (n = 2) and paracentesis (n=1). Most encounters resulted in discharge but n=8 (32%) resulted in admission. Five patients directly avoided inpatient admission totalling 204 days (median per patient 17, IQR 6-27) and 21 reviews on the Hepatology Ambulatory Unit were avoided (approximately 10% of workload). There were 4 expected deaths (median 44 days after initial assessment) and no unexpected deaths.

**Conclusions:** Hepatology at Home is an alternative to hospital-based care for patients with chronic liver disease, offering them an increased number of days at home.

Keywords: Hepatology, Cirrhosis, Hospital at Home

# PERIOPERATIVE HOSPITALIZATION AT HOME (PHAH): EXPERIENCE FROM SINGAPORE

### SESSION 15: HAH SUPPORTIVE AND RELATED MODELS OF CARE – PART 2

<u>Chun En Chua</u>, Shi Yun Low, Sandra Tan, Stephanie Ko National University Hospital, Department Of Medicine, Singapore, Singapore

**Background and Aims:** The aging global population has led to an increase in medically complex surgical patients requiring extended hospital stays. Perioperative Hospital-at-Home (PHaH) programs, managed by internal medicine physicians with input from surgeons and allied health professionals, could offer an alternative to traditional hospital stays. While international studies indicate benefits such as reduced hospital days and readmissions, PHaH is still under-researched, necessitating further study on its effectiveness and implementation.

**Methods:** A retrospective cohort study reviewed 107 patients referred from surgical departments to NUHS@Home, Singapore's largest HaH program, between August 2023 and July 2024.

**Results:** Most referrals were from General Surgery (42%) and Orthopaedics (27%) with patients having a median age of 58 years and a median length of stay of 4 days. 13% of patients returned to hospital (RTH) during the HaH admission with low 30-day unplanned readmission rates (6.5%) and no mortality. The top reasons for significant RTH include early identification of haemodynamic instability which require emergent hospital care and for planned procedures in the hospital such as pleural drain. Doctors, nurses and allied health professionals performed an average of 7,9 and 10 home visits per 10 PHaH patients respectively. However, PHaH accounted for only 0.4% of total surgical admissions, indicating low utilization due to unfamiliarity with the program.

**Conclusions:** This study suggests that PHaH can be clinically effective with good resource utilisation. The significant RTH and low utilization highlight the need to review and improve our implementation strategies and outcomes.

Keywords: Perioperative Medicine, Internal medicine

# HOSPITAL-LEVEL CARE AT HOME FOR ACUTELY ILL ADULTS IN RURAL SETTINGS: A RANDOMIZED CONTROLLED TRIAL

## SESSION 15: HAH SUPPORTIVE AND RELATED MODELS OF CARE – PART 2

David Levine<sup>1,2,3</sup>, Meghna Desai<sup>3</sup>, Sarah Findeisen<sup>3</sup>, Stephanie Blitzer<sup>3</sup>, Ryan Brewster<sup>3</sup>, Mary Barthel<sup>4</sup>, Michelle Grinman<sup>5,6</sup>

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**Background and Aims:** Most home hospital efforts have occurred in urban areas; rural home hospital (RHH) outcomes are relatively unknown.

**Methods:** We performed a parallel-group patient-level randomized controlled trial at 3 rural hospitals in the U.S. and Canada comparing RHH to brick-and-mortar (BAM). RHH patients were visited once-daily by a remote physician and twice-daily by an in-home nurse or paramedic. They received intravenous medications, remote monitoring, video communication, and point-of-care testing.

**Results:** We randomized 161 patients (79 RHH; 82 BAM). Groups were similar: 63.4% female; mean age 65 (SD, 16). Mean length of stay for the entire hospital episode was 6.7 days (SD, 5.0) for RHH and 5.4 days (SD, 4.4) for BAM (p=0.03). Thirty-day readmission occurred in 10% of RHH and 17% of BAM (p=0.21). Six (7.6%) RHH patients were transferred back to BAM. No patients were escalated to the ICU or died. Net promoter score was 88.4 in RHH vs 45.5 in BAM (p=<0.001). Adjusted mean cost for the acute care episode and 30 days post-discharge was 11.7% higher for RHH than BAM (95% CI, -11.6% to 41.2%). In a secondary analysis of RHH patients transferred home in <3 days (40 RHH; demographically similar to 82 BAM), mean length of stay was 3.7 days (SD, 1.8), 30-day readmission was 8%, and cost was 28% lower.

**Conclusions:** Compared to BAM, RHH improved patient experience and had no difference in readmission or cost; for patients transferred home in <3 days, RHH improved cost and readmission. RHH is a viable, high-value model.

**Keywords:** rural health, rural home hospital, randomized controlled trial, patient experience

# ANALYSIS OF IMPLEMENTATION: MULTIDISCIPLINARY CARE MODEL IN A GENERAL SURGERY SERVICE (GSS) JOIN WITH HOSPITAL AT HOME UNIT (HHU) IN A THIRD LEVEL HOSPITAL

## SESSION 15: HAH SUPPORTIVE AND RELATED MODELS OF CARE – PART 2

<u>Thatiana Vértiz Guidotti</u><sup>1,2</sup>, Alba Zarate Pinedo<sup>2</sup>, Ingrid Tapiolas Gracia<sup>2</sup>, Anna Maria Piqueras Hinojosa<sup>2</sup>, Albert Caballero Boza<sup>2</sup>, Sara Senti I Farrarons<sup>2</sup>, Ester Hoyos Alcañiz<sup>2</sup>, Maria Soledad Corral Montoro<sup>2</sup>, Beatriz Sanchez<sup>2</sup>, Juan Francisco Julian Ibañez<sup>2</sup>, Maria Gloria Bonet Papell<sup>1</sup>

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**Background and Aims:** The growing demand for surgical care and health care resources optimization have led to the development of alternative models like HHU. We aimed to analyze trends and effectiveness of inpatients admitted under surgical subspecialties (SS) after implementing a coordinated project between HHU and GSS.

**Methods:** Cross-sectional study of patients admitted between 2022 - 2024. It Included patients from GSS Emergency Department, GSS inpatient ward and same day discharge surgery (SDDS). Criteria for HHU admission: SDDS, post-surgical complications and need of follow-up care (parenteral nutrition, complex wound care and infections). A descriptive analysis compared the number of admissions in SS before and after the project's implementation in March 2023.

**Results:** A total of 327 patients were included. The great majority from SS: Colon 156 (48%) and Hepato-biliary-pancreatic (HBP) 111 (34%). In 2022, the GSS discharged 1,989 patients, 3.4% to HHU; in 2023, 2,363 discharges, 6.3% to HHU; and by August 2024, there were 1,454 discharges, with 9.4% to HHU.

The admissions from HHU area of reference, increased from 5.81% in 2022 to 10.76%, 2023 and 15.47% by August 2024.

**Conclusions:** Following the implementation of the new care model, there has been a significant 85% increase in admissions to the HHU from GSS, with remarkable findings: Substantial increase in the number of discharges in Colon and HBP SS. Multidisciplinary teamwork, involving surgeons and HHU professionals, has been critical in ensuring the continuity of care from HHU. This model demonstrates the effectiveness of coordinated efforts providing high-quality surgical care while minimizing hospital-related complications.

**Keywords:** Multidisciplinary care, surgical patients, team work, Colon, Hepato-biliary-pancreatic

# AN INNOVATIVE MODEL FOR INTEGRATED POST-ACUTE AND HOME-BASED HEALTH CARE SERVICES

## SESSION 15: HAH SUPPORTIVE AND RELATED MODELS OF CARE – PART 2

<u>Ting-Ya Kuo</u><sup>1</sup>, Chia Yin Chen<sup>2</sup>, Chung Yi Tsai<sup>1</sup>, Man Chun Liu<sup>1</sup>, Pei Feng Hsu<sup>1</sup>, Chun Wen Lai<sup>1</sup>, Ya Shu Chen<sup>1</sup>, Wan Chi Teng<sup>1</sup> <sup>1</sup>YuanKuo Hospital, Yuanlin City, Taiwan, <sup>2</sup>Yuankuo hospital, Yuanlin, Taiwan

**Background and Aims:** The National Health Insurance Administration of Taiwan implemented the "Post-acute Care (PAC) Program" in 2014, including home-based, inpatient, and day care services. However, there remains a notable gap in care transition protocols for patients who experience functional decline and require rehabilitation following Hospital at Home (HAH) interventions. There is currently no comprehensive transitional model between PAC discharge and home health care. Our institution has implemented the Person-Centered Medical Home (PCMH) model to integrate PAC with home health care services. Through an interdisciplinary team approach, we provide comprehensive, efficient, and continuous case management with integrated medical services.

**Methods:** This model's core structure is characterized by the "Dual Conferences, Dual Visits, Dual Teams" approach, which ensures seamless care transition. Dual Conferences: 1.Patient-Provider Communication & Goals of Care Conference 2.Care Transition Conference

Dual Visits: 1. Home Environmental Assessment 2. Home Nutritional Assessment Dual Teams: 1. PAC Multidisciplinary Team 2. Home Healthcare Team

"An Innovative Model for Integrated Post-Acute and Home-based Health Care Services"



# "Dual Conferences, Dual Visits, Dual Teams"

E = Home Environment Assessment, N = Home Nutritional Assessment

**Results:** In alignment with PCMH principles, our institution recognizes patients, family members, and caregivers as essential partners within the care team. We implement biweekly integrated conferences combining Patient-Provider Communication and Goals of care. These conferences actively engage family members, explorating patients' healthcare preferences and objectives. The interprofessional team develops individualized care protocols encompassing multiple domains: rehabilitation objectives, nutritional interventions, and life reconstruction strategies.

**Conclusions:** The Innovative program facilitates comprehensive transitional care services in home settings. This approach supports post-critical care patients' rehabilitation through community-based service delivery, with objectives of reducing emergency department utilization, facilitating early functional independence restoration, and minimizing societal healthcare expenditure.

Keywords: Transitional Care Services, Post-Acute Care, Hospital at Home

# A MIXED METHODS QUALITY IMPROVEMENT EVALUATION OF VIRTUAL ROUNDING PROVIDERS ALONGSIDE IN-HOME PROVIDERS FOR HOME HOSPITAL CARE

## **SESSION 17: CLINICAL PRACTICE AND ADVANCES – PART 1**

Saheba V. Shaikh, Katherine S. Killinger, Henry Ssemaganda, Katie Carr, Diane E. Gent, Cindy Yu, Robert B. Boxer, <u>Karin A. Falkenberg</u>, Sean M. Kukauskas, Susan L. Belton, Stephen C. Dorner, David Levine Mass General Brigham, Health Care At Home, United States of America

**Background and Aims:** Background: The home hospital care model often faces inefficiencies due to travel time. Virtual rounding (VR) with dedicated remote providers (e.g., physicians or advanced practice providers) may streamline care. Aim: To evaluate a VR line that can care for patients alongside traditional in-home rounders.

**Methods:** We deployed a VR line that cared for a select group of lower-complexity patients (while the remainder were cared for by traditional in-home rounders) in our North (intervention) but not South (control) catchment. Our primary outcome was a composite of adverse events (AEs) per hundred patients. We performed multivariable regression with a difference-in-differences (DiD) approach. We analyzed qualitative provider experience surveys.

**Results:** We studied 260 patients (113 North; 147 South). Median age was 77, 57% were female, and 85% spoke English. Groups differed by race/ethnicity and education. In the primary DiD analysis, there was no significant difference in AEs (intervention, 0.04[pre] vs 0.04[post]; control, 0.12[pre] vs 0.12[post]; DiD, 0.01 [95% CI, -0.11 to 0.11]). There was no significant difference in length of stay (intervention, 5.2[pre] to 5.5[post]; control, 5.7[pre] vs 5.1[post]; DiD, 0.86 [95% CI, -0.58 to 2.30]) or 30-day readmission (intervention, 14[pre] to 12[post]; control, 16[pre] vs 10[post]; DiD, 6.8 [95% CI, -4.5 to 18.2]). Qualitative themes included difficulty scheduling, difficulty applying VR criteria, loss of continuity of care, increased travel for in-home rounders because virtual rounders were taken out of the field.

**Conclusions:** Conclusion: VR for selected patients likely demonstrated no difference for AEs, although replication would be beneficial. Providers qualitatively found VR challenging.

**Keywords:** Home Care Services, Virtual rounding care, Providers experience survey, Home Hospital, Patient outcomes assessment

## HOSPITAL AT HOME AND INFLUENZA: A TEN YEARS EXPERIENCE

## **SESSION 17: CLINICAL PRACTICE AND ADVANCES – PART 1**

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**Background and Aims:** Seasonal influenza epidemics challenge healthcare systems during winter. Hospital at Home (HaH) offers selected patients the opportunity to receive healthcare at home, thus avoiding associated in -hospital complications. To describe the epidemiological and clinical characteristics of patients admitted at HaH Unit by influenza virus infection (IVI), identifying risk factors for developing adverse outcomes defined as a composite endpoint (readmission/transfer to hospital, mortality, emergency room visits (ER)) during the follow-up period (at 30 and 90 days post-discharge).

**Methods:** A retrospective cohort analyzed clinical data of 270 patients admitted to HaH with IVI between 2015 and 2024.

**Results:** The mean age was 73, with a median Barthel Index of 100. 41.8% were women. 75% were admitted from ER. The median length of stay (LoS) was seven days. 41 and 38 patients fulfilled the combined endpoint at 30 and 90 days, respectively. LoS (OR 1.07; 95% CI 1.01-1.13 p=0.008), Charlson Index (OR 1.24; 95% CI 1.08-1.4;p=0.002), and oxygen needed at discharge (OR 3.51; 95% CI 1.6-7.7; p=0.002) were associated with adverse outcomes at 30 days. Glomerular filtration rate (GFR) at discharge (OR 1.027; 95% CI 1.011-1.043; p=0.003) and 30 days-ER visits (OR 4.430; 95% CI 1.691-11.608; p=0.002) were significantly associated with worse outcomes at 90 days.

**RISK FACTORS ASSOCIATED WITH COMPOSITE ENDPOINT AT 30-DAYS\*** 



Adjusted model (by gender and age). HaH: Hospital at Home; COPD: Chronic Obstructive Pulmonary Disease; LoS: Length of Stay (days)



**Conclusions:** This study highlights the potential of HaH as a safe and effective alternative to traditional hospital care for patients with IVI. The key risk factors identification underscores the importance of patient selection and post-discharge monitoring providing actionable insights that allow us to identify patients at higher risk of poor outcomes.

**Keywords:** Hospital-at-home, risk factors, Influenza virus infection, acute care at home, seasonal influenza outbreaks

# DEVELOPMENT AND IMPLEMENTATION OF A DIGITAL PHENOTYPE TO IDENTIFY ELIGIBLE PATIENTS FOR HOSPITAL-AT-HOME (HAH)

### **SESSION 17: CLINICAL PRACTICE AND ADVANCES – PART 1**

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**Background and Aims:** Though many hospitals have expanded 'Hospital-at-Home' (HaH) services, maximing utilisation of HaH remains complex due to the need to consider a multitude of clinical, logistical and environmental variables in identification of appropriate patients. We describe development and outcomes from implementation of a clinician-validated digital phenotype to identify inpatients for Hospital-at-Home (HaH) care. Named 'Hospital-at-Home Eligibility Identifier' (HEI), this was rapidly implemented in a quartenary teaching hospital to optimise occupancy of HaH whilst maintaining quality of healthcare delivery.

**Methods:** Project phases included (1) digital phenotype design and clinical validation, (2) workflow development, and (3) outcome monitoring. Digital phenotype development occurred via iteratively designing and building prototypes in the EMR build environment, utilising inclusion and exclusion criteria combining administrative, clinical and non-clinical information. The algorithm subsequently allocated points to a selection of data domains in order to generate a patient list ranked by order of potential eligibility for HaH that is constantly updated in real-time.

**Results:** Validation by clinicians indicate that the HEI algorithm yielded 60% accuracy amongst highly-ranked patients, and 14% accuracy amongst low-ranking patients. High-ranking patients were approximately twice as likely to be eligible for HaH compared to lower-ranked patients. Post-implementation, 403 discharges and 4070 bed-days were delivered in the initial two months compared with 345 discharges and 4015 bed-days over a similar time period. This was acheived with a concurrent decrease in average length of stay, and without increase in unplanned returns to hospital.

**Conclusions:** We have developed a robust clinician-validated digital phenotype for HaH patients, acheiving an increase in activity without compromising quality of care.

**Keywords:** digital phenotype, health informatics, health services research, implementation outcomes, electronic medical record
# EARLY HOME MONITORING OF PATIENTS UNDERGOING BREAST CANCER SURGERY

# SESSION 17: CLINICAL PRACTICE AND ADVANCES – PART 1

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**Background and Aims:** Breast cancer in women is the first or second cause of cancer mortality. The referral to the Hospital at Home Unit (HaH) by the breast pathology unit of patients who have undergone mastectomy with immediate reconstruction and oncoplastic surgery. After discharge from hospital, follow-up and intravenous treatment at home is provided by the HaH of the Vinalopó University Hospital of Elche.

**Methods:** Descriptive, retrospective study, conducted from 2023 to 2024. In which 300 patients with breast cancer who required any type of locoregional surgery with anesthetic risk less than ASA V were included. Admission to HaH was on the same or the day after the intervention to continue treatment at home. The clinical records were reviewed by age, scheduled and urgent medical and nursing care.

**Results:** 300 female patients were admitted. Average age 80 +/- 42 years. There were 296 scheduled medical and 355 nursing visits. Only 1.3% (4) required medical assessment and 8.6% (26) urgent nursing visits. 85% (255) of the patients were discharged home on the day of the intervention with intravenous treatment. 1011 contacts were made by the unit, of which 356 were by telephone, 138 urgent (98 medical and 40 nursing). There were 26 urgent nursing assessments at home and 4 medical. Only 0.3% (1) required hospital referral for medical reasons and 99.7% were discharged without incident.

**Conclusions:** HaH is an excellent alternative to conventional hospitalization in patients with breast oncology pathology susceptible to surgical with the consequent reduction in costs and the satisfaction transmitted by patients and relatives.

Keywords: Hospital at Home, Treatment and follow-up, Breast cancer surgery

# PREVALENCE AND CLINICAL IMPACT OF FRAILTY IN OLDER PATIENTS ADMITTED TO A GERIATRIC ACUTE CARE WARD AND IN A HOSPITAL-AT-HOME.

# SESSION 19: ROLE OF HOSPITAL AT HOME IN MANAGING FRAILTY: A MIX OF REAL-WORLD EXPERIENCES

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**Background and Aims:** Frailty significantly increases the risk of adverse events during hospital admissions. This study compared the prevalence of frailty, defined by different models, between an acute geriatric ward (AGW) and a Hospital-at-Home (HaH) and assessed its impact on complications.

Methods: Prospective observational study on patients aged ≥65 years admitted to an AGW or HaH at an Italian university hospital between 2022 and 2024. Frailty was evaluated according to three models: frailty phenotype, deficit accumulation (CFS), and multidimensional index (MPI). Adverse events (delirium, pressure ulcer, infections, falls) during admission were recorded.

**Results:** Of 297 patients (median age 86, 52.2% female), 199 (67.0%) were admitted to an AGW and 98 in HaH (33.0%). HaH patients had more comorbidities, functional and cognitive impairment, a higher risk of pressure sores, and prevalence of frailty according to CFS and MPI (82.7% vs 60.3% and 38.5% vs 21.9%, respectively, p<0.001). After adjusting for multiple factors, and irrespective of conceptual model, frailty was significantly associated with admission-related complications. Despite their different risk profile, incidences of complications in HaH and AGW patients were superimposable (30.6% vs 32.3%, p=0.766), with infections being the most common (17.5%), but HaH patients were more likely to be discharged at home (87.8% vs 70.9% p=0.001).

**Conclusions:** HaH is a safe alternative for frail older patients, potentially reducing the risk of hospitalization-related complications. Accurate frailty assessment can help predict vulnerability to adverse events, with important implications for patient care and healthcare costs.

**Keywords:** Frailty, in-hospital complications, hospital-at-home vs traditional hospitalization, older adults, Comprehensive Geriatric Assessment

# COMPLEX CANCER SURGERY PATIENTS – THE NEW FRONTIER FOR HOSPITAL IN THE HOME (HITH) SERVICES?

# SESSION 19: ROLE OF HOSPITAL AT HOME IN MANAGING FRAILTY: A MIX OF REAL-WORLD EXPERIENCES

Teagan Edwards, Rhys Hughes, Vikas Wadhwa Peter MacCallum Cancer Centre, , Australia

**Background and Aims:** Utilising an established Enhanced Recovery After Surgery (ERAS) pathway and informed consent, patients requiring plastic reconstructive surgery for breast cancer were rapidly transitioned post operatively to HITH. Primary aims were to assess reductions in hospital length of stay (LOS) and clinical outcomes.

**Methods:** Procedures were minor or major based on surgical complexity. Major cases included mastectomy (unilateral or bilateral), node removal, tissue expander insertion, and free flaps. Minor complexity cases included breast reduction, nipple reconstruction and fat graft injection. Revision of an established ERAS pathway and multidisciplinary team engagement was supported by comprehensive patient education and early referral to HITH. Baseline length of stay (LOS) data was collected for comparison of patient groups.

**Results:** During a 4-month trial, 25 patients with major and 12 with minor surgical complexity procedures were consecutively recruited. HITH referrals were made within 24 hours post-operatively. The average reduction in inpatient LOS was 2 days in the major complexity and 2.3 days for the minor complexity group, resulting in 76.3 inpatient bed day savings. The average LOS in HITH was 3.25 days per patient for major complexity and 0.75 days for minor complexity procedures. There were no instances of readmissions or complications.

**Conclusions:** Complex cancer surgery patients may benefit from early supported discharge with ongoing care provided through HITH. Reductions in hospital LOS has potential to improve bed access with substantial cost savings for the health system. Success of this initiative supports its consideration for expansion and utilisation across other surgical patient cohorts.

Keywords: cancer, supported, discharge, complex, surgery

# PSYCHIATRIC HOSPITAL AT HOME- EFFICACY, SAFETY AND LESSONS LEARNED AT THE 5-YEAR MARK

# SESSION 19: ROLE OF HOSPITAL AT HOME IN MANAGING FRAILTY: A MIX OF REAL-WORLD EXPERIENCES

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**Background and Aims:** Data on acute psychiatry hospital-at-home units is limited. Our main aim was to evaluate the outcomes of patients with a variety of psychiatric diagnoses who were admitted to an acute psychiatric hospital-at-home unit, as a substitute for psychiatric hospital admission.

**Methods:** Data was collected over five years from Sabar Health, a hospital at home provider. Admission criteria, demographic data, referral pathways, escalation procedures, discharge patterns and outcomes are presented.

**Results:** 526 patients (57.60% females, average age 44) were admitted to the hospital at home unit The most common diagnosis was Schizophrenia related psychosis for 178 (33.84%) patients. 324 (61.60%) successfully reached treatment goals and were then discharged. Their median length of stay was 102 days. 40 (7.61%) were admitted to a hospital psychiatry unit after an escalation procedure. Their median length of stay was 43 days. 161 (30.61%) were disenrolled due to insurer decision or incompatibility. 1 (0.19%) died of an unrelated medical event

**Conclusions:** The intervention proved efficacious and safe and prevented hospitalization in an acute psychiatric hospital ward for most patients. To our knowledge, this is the largest cohort of acute psychiatric patients treated in a hospital-at-home unit described to date. More research is needed to refine the model and identify the subgroups of patients who are most likely to benefit from this innovative care pathway.

Keywords: Psychiatric, Hospital at Home, efficacy, Safety, lessons

# EARLY POSTOPERATIVE CARE FOR KIDNEY TRANSPLANT PATIENTS IN HOSPITAL AT HOME: A CASE-CONTROL STUDY

# SESSION 19: ROLE OF HOSPITAL AT HOME IN MANAGING FRAILTY: A MIX OF REAL-WORLD EXPERIENCES

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**Background and Aims:** Hospital at Home (HaH) has proven to be effective and safe in various patient populations. However, no data exists on its implementation for kidney transplant patients. Objective: To compare early discharge to HaH after kidney transplantation with standard care.

**Methods:** We conducted a single-center analysis of kidney transplant recipients (October 2020 to December 2022) who received postoperative care in HaH (n=75). The control group consisted of a cohort of pre-pandemic transplant patients (2013-2019, n=845), with 75 matched controls selected using propensity score matching.

**Results:** Among patients discharged to HaH, 45.3% received a kidney from a living donor, and 21.3% had previously undergone a transplant. The mean age was 56.0±14.1 years, and 72.0% were male. Preemptive transplantation was performed in 30.7%. Delayed graft function occurred in 8.0% of cases. No significant differences were observed in baseline characteristics between the HaH and matched control groups. The conventional hospital stay in the HaH group was 5 [4-6] days, compared to 11 [8-16] days in the control group (p<0.001). Total length of hospital stay in the HaH group was 10 [8-20] days, similar to the control group (P=0.886). No significant differences were observed in one-year rejection, graft loss, or mortality rates between the groups.

**Conclusions:** In our experience, HaH for kidney transplant recipients is associated with a reduction in hospital stay compared to a historical control group, with comparable clinical outcomes.

Keywords: kidney transplant, surgical hospital at home

# DEVELOPMENT AND OUTCOMES OF A CURRICULUM TO TRAIN DOCTORS IN HOSPITAL AT HOME CARE

### SESSION 20: EDUCATION, TRAINING AND WORKFORCE – PART 2

<u>Andrew Wong Peng Yong</u>, Mary Grace Arciga, Michelle Tan Woei Jen Singapore General Hospital, , Singapore

**Background and Aims:** A Hospital at Home (HaH) program addresses the unique challenges of delivering acute care to patients at home, distinct from traditional hospital settings. Recognizing the need for specialized training, particularly for doctors rotating through a HaH program, we developed a comprehensive six-month curriculum in 2024 at the Singapore General Hospital. This training aims to equip doctors with the competencies needed for 1) selecting appropriate patients for HaH, 2) conducting thorough home-based assessments, 3) managing medical issues remotely, and 4) crafting effective discharge plans.

**Methods:** The curriculum employs a blend of educational methods, including prereading materials, didactic lectures, case discussions, peer learning, and morbidity rounds, supported by direct and remote preceptorship, case presentations, and 360degree feedback. Aligned with the six competencies of the Accreditation Council of Graduate Medical Education, each doctor's progress is meticulously tracked, with entrustable levels assigned to key domains. Assigned consultant doctors provide continuous guidance, assessments, and improvement plans.

**Results:** Feedback from seven participating doctors highlighted the practical value of pre-reading materials and the depth of learning gained through discussions with senior clinicians. Importantly, all doctors achieved the level of independent practice post-training, with 360-degree feedback corroborating their competence.

**Conclusions:** This HaH curriculum demonstrates the value of having structured training for this non-traditional care model. Future enhancements will include E-learning modules and tailored training for doctors from various specialties.

Keywords: Medical Education, Hospital at Home, Clinical Competencies

# IMPLEMENTING RIGHT CARE FOR PLATELET TRANSFUSIONS WITHIN A HOME HOSPITALIZATION UNIT

# **SESSION 20: EDUCATION, TRAINING AND WORKFORCE – PART 2**

Vicente Ruiz García, <u>Alberto Muñoz Cano</u>, Rosa Navarro Villanueva, Carolina Lara, Juan Ramón Domenech Pascual, Ana Isabel Jimenez Manso, Antonia Martinez Gascó, Carolina Peris Puchades Hospital UiP La Fe, Hospital At Home Unit, Spain

**Background and Aims:** Platelet transfusions are commonly used in HaH. Platelets are a valuable element because four units of blood are needed to obtain a platelet pool. Platelet transfusions are not without risk, including volume overload.

**Methods:** A training session was conducted to update the indications for platelet transfusions according to the recommendations of the Clinical Guideline (1): prophylactic platelet transfusions are only indicated for platelet counts below 10,000, and only one platelet pool is recommended.

**Results:** Following the training, the transfusions performed during the last three months were analyzed (n = 15). In 73% of cases, indications were followed according to the guidelines, with restrictive use. The average of platelet count was 5  $^{\circ}$  9 10 $^{\circ}$ 3/µL, and an average of one pool of platelets per transfusion. In 27% of cases, indications were not followed, with an average of platelet count of 6  $^{\circ}$  7 10 $^{\circ}$ 3/µL, and an average of two pools of platelets per transfusion.

**Conclusions:** Adherence to clinical guideline recommendations regarding the number of platelet pools and their indications was generally appropriate. To further improve compliance, we recommend implementing strategies to reinforce these guidelines. This is essential considering the limited resources available and the potential risks associated with non-adherence. 1. Schiffer CA, Bohlke K, Delaney M, Hume H, Magdalinski AJ, McCullough JJ, et al. Platelet Transfusion for Patients With Cancer: American Society of Clinical Oncology Clinical Practice Guideline Update. J Clin Oncol.2018;36(3):283-99.

Keywords: Hospital at Home, Platelet Transfusion, Right Care, Safety, Update

# DESIGNING AND DELIVERING HIGH-FIDELITY SIMULATION TRAINING FOR HOSPITAL-AT-HOME

# SESSION 20: EDUCATION, TRAINING AND WORKFORCE – PART 2

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**Background and Aims:** Hospital-at-Home (HaH) services replicate hospital-level care within a patient's home, requiring clinicians to manage complex, acute conditions without the full infrastructure of a hospital. As NHS England scales HaH services nationwide, the need for effective and independent clinician training within community settings is paramount. High-fidelity simulation utilises advanced mannequins and/or actors, alongside realistic home environments, allowing clinicians to develop and refine their skills in a controlled, risk-free setting. We set out to develop a replicable framework for delivering high-fidelity simulation training to all members of the multidisciplinary team, including nurses, doctors, and pharmacists.

**Methods:** The training sessions include the delivery of realistic scenarios (for example, sepsis, anaphylaxis, delirium, and end-of-life care), supported by subject matter experts, and incorporate a structured debriefing process to reinforce learning and improve clinical competence. The framework also addresses the selection and maintenance of equipment, resource allocation, and the scheduling of simulation sessions to ensure maximal training efficiency.

**Results:** 14 staff participated, of which 75% had not previously completed simulation training, with clinical assessment and confidence being the key identified learning needs. Feedback was overwhelmingly positive, with 100% of respondents replying 'strongly agree/agree' that the training was useful and interesting, they felt more confident, and the learning was relevant to their needs. We plan to re-survey attendants after an interval period to assess longer-term impact on their clinical practice.

**Conclusions:** Initial findings suggest that this simulation-based approach enhances clinical skills and significantly improves confidence and decision-making among HaH clinicians, ultimately leading to better patient outcomes and safety.

Keywords: simulation, training

# DEVELOPING CORE COMPETENCIES FOR PHYSICIANS IN ACUTE HOSPITAL CARE AT HOME USING A MODIFIED DELPHI APPROACH

# SESSION 20: EDUCATION, TRAINING AND WORKFORCE - PART 2

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**Background and Aims:** Given the growth in Acute Hospital Care at Home (AHCaH) in the US, it is important to establish standards for physicians entering the clinical practice. The Association of American Medical Colleges (AAMC) and Accreditation Council for Graduate Medical Education (ACGME) both established clinical competencies and milestones for medical students, graduate medical trainees, specialists, and sub-specialists. There are no competencies for any role in AHCaH.

**Methods:** A multidisciplinary panel with representation from different AHCaH programs participated in a modified Delphi process to achieve consensus on competencies seen as essential to physicians practicing AHCaH. These competencies were classified into the 6 core competencies necessary for practicing physicians as outlined by the ACGME: patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice. Submissions from the panel were reviewed by the research team to identify themes.

**Results:** We anticipate a list of 20-40 consensus competencies. Themes identified were "applying evidence based practices established in brick and mortar hospitals to the care of patients in the home", "utilization of virtual tools for communication with and evaluation and management of patients", "understanding the different resources and capacities for care in the AHCaH setting versus brick and mortar", "development, knowledge and refinement of protocols for care of patients in the home", and "providers comporting themselves in a respectful manner in patients' homes".

**Conclusions:** In this ongoing development of AHCaH competencies, participants identified the importance of adaptation and innovation in the home setting as central to physician practice in this field.

Keywords: Competencies, Medical Education, delphi

# AT-HOME (AH) MANAGEMENT OF PANCYTOPENIA AFTER INTENSIVE CHEMOTHERAPHY (IND-2) (CETLAM22 PROTOCOL) IN ACUTE MYELOIDE LEUKEMIA (AML).

# SESSION 22: LINICAL PRACTICE AND ADVANCES - PART 2

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**Background and Aims:** This study assesses the feasibility and safety of managing pancytopenia AH in AML patients after intensive chemotherapy (cytarabine 1 g/m<sup>2</sup> BID days 1 to 6 + daunorubicin 60 mg/m<sup>2</sup> QD days 1 to 3), with dose adjustments for patients over 60y or dose-limiting toxicity during induction-1.

**Methods:** This retrospective single-center study included 12 patients (Table 1) that met inclusion criteria (Image 1). Prior to inclusion, an assessment and education of patient and caregiver was performed, also a rectal swab and central venous catheter blood cultures were drawn. On the discharge day, +1 of end of treatment (EOT), a dose of 6 mg SC pegfilgrastim was administered. All patients received antibiotic (ATB) and antifungal prophylaxis during aplasia, with transfusion support at-home, for platelets. Neutropenic fever was treated with empiric IV ATB, and in most cases self administration was encouraged. Our Home Care Unit (HCU) provides a Support Unit (24-hours bed) for managing adverse events.

#### **IMAGE 1: INCLUSION CITERIA HCU**

- 1. Stable patients without uncontrolled active complications, such as severe infection, heart failure, or respiratory insufficiency, as well as renal failure or hepatic impairment that would contraindicate outpatient treatment.
- No neurological or psychiatric disorder that would contraindicate outpatient treatment.
- 3. ECOG performance status of 2 or less.
- 4. Absence of platelet refractoriness.
- 5. Support caregiver available 24 hours a day with home acces, if needed.
- 6. Residence no more than 60 minutes from the caring center. If residence farther, they will be eligible for subsidized accommodation for patient and caregiver.
- 7. Availability to attend caring center daily, if necessary.
- 8. Proper venous access (central venous catheter (CVC), peripherally inserted central catheter (PICC)).
- 9. Patient and caregiver acceptance of home-based follow-up.

Characteristics	Patients (N=12)				
Age (range)	51 (24-72)				
Gender (%)					
Female	7 (58)				
ECOG (%)					
0-1	12 (100)				
ELN22 Risk (%)					
Favorable	6 (50)				
Intermediate	5 (42)				
Adverse	1 (8)				
Daunorubicin Ind-2 (%)					
No	5 (42)				
RS Colonization (%)	5 (42)				
E. Coli ESBL	3 de 5 (60)				
Klebsiella ESBL	1 de 5 (20)				
Multidrug-resistant Pseudomonas	1 de 5 (20)				
Self-administration of prophylaxis (%)	9 (75)				

#### Table 1

Baseline characteristics of patients: ECOG: Eastern Conference Oncology Group, ELN22: European Leukemia Net 2022, RS: Rectal Swab.

**Results:** Of the 12 patients, 7 (58%) did not receive daunorubicin. The median duration of aplasia (NT <0.5x10<sup>9</sup>/L) was 14 (7-20) days, with 20x10<sup>6</sup> self-sustained PLT by day +19 (13-32) post-EOT. 42% patients presented fever (Table 2), with microbial ID in 60% of the febrile episodes. Three patients (25%) required readmission, with one requiring ICU due to a submaxillary fasciitis. Each patient received a median of 5 (3-11) PLT and 3 (1-8)

RBC.

Adverse Events	Patients (N=12)				
Any adverse event (%)	9 (75)				
Cytarabine toxicity (%)					
Keratopathy:	2 (17)				
Febrile neutropenia	5 (42)				
Microbial ID <sup>β</sup>	3 (60)				
Duration of aplasia (range) (%)*					
NT < 0,5x10 <sup>9</sup>	14 (7-20)				
PLT < 20x10 <sup>9</sup>	19 (13-32)				
Oral mucositis (%)					
Grade 1	4 (33)				
Grade 2	1 (16)				
Hospital readmission (%)	3 (25)				
ICU	1 de 3 (33)				

Table 2

Adverse events during follow-up. NT: neutrofils, PLT: platelets

β Enterococcus faecium (2), Multidrug-resistant Pseudomonas

**Conclusions:** The AH management of pancytopenia post ind-2, is feasible and safe with the support of HCUs prepared for rapid assessment and management of adverse events.

Keywords: Hematology, Chemotherapy, pancytopenia, home, acute myeloide leukemia

# PANCREATITIS CHARACTERISTICS AND OUTCOMES IN MAYO CLINIC'S ADVANCED CARE AT HOME

# SESSION 22: LINICAL PRACTICE AND ADVANCES - PART 2

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**Background and Aims:** Mayo Clinic Advanced Care at Home (ACH) offers hospital-level care to patients with acute pancreatitis at home. The aim of this study was to assess characteristics of patients with pancreatitis managed in ACH and their outcomes including LOS (length of stay), 30-day mortality rates, 30-day readmission, and the accessibility of on-demand intravenous (IV) treatments.

**Methods:** Retrospective data identified 50 patients treated for pancreatitis between October 13, 2020, and June 1, 2024 managed at Mayo Clinic ACH in Florida, Wisconsin and Arizona.

**Results:** The most common etiology was idiopathic and alcohol use. 6% of patients had SIRS on admission, 2% with sepsis, and a 10% incidence of pleural effusion and pancreatic necrosis. 52% of patients had a Ranson's score of 1, 36% with a score of 2 and CT severity index revealed that 46% had a score of 2, reflecting mild to moderate disease severity. The average number of inpatient days prior to ACH was 2.91, and the average ACH LOS was 3.68 days, with the total LOS being 6.59 days. The readmission rate was 14%, 30 day mortality was 2%, and 10% of patients had an escalation of care. Pain management included mostly oral medications, and IV pain medications were used sparingly as one-time doses in addition to oral pain regimen. Of patients receiving IV fluid administration, 16% received bolus, 18% continuous, and 60% with a combination of oral and IV.

**Conclusions:** Mayo Clinic ACH program offers effective management for patients with mild to moderate pancreatitis.

Keywords: pancreatitis, ACH, Hospital at Home, length of stay, Outcomes

# A MENTAL HEALTH HOSPITALIZATION AT HOME PROGRAM AS A NOVEL HEALTHCARE DELIVERY MODEL ON THE POSTPARTUM PERIOD.

# SESSION 22: LINICAL PRACTICE AND ADVANCES - PART 2

<u>Isabel Agasi</u><sup>1</sup>, Noel Cabrera<sup>1</sup>, Isabella Pacchiarotti<sup>1</sup>, Irene Pereta<sup>2</sup>, David Nicolás Ocejo<sup>2</sup>, Eva Solè<sup>1</sup>, Alba Roca-Lecumberri<sup>1</sup>, Lourdes Navarro<sup>1</sup>, Oriol Marco<sup>1</sup>, Marina Garriga<sup>1</sup>

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**Background and Aims:** The early postnatal period is at high risk for new and recurrent episodes of severe mental illness, with around one to two women in 1,000 requiring admission in the first few months after birth. Home visits by midwives/obstetricians/paediatricians have been tested on preventing mental health problems on the postpartum with no home specific treatment when mental ill relapse appears. Indeed, scarce literature is found on acute relapses on mental health ion the postpartum in terms of home visiting programs. Authors aim to explore the role of a Mental Health Hospitalization at Home (MH-HaH) program on acute mental health status on the postpartum period.

**Methods:** A descriptive study on women attended in a HaH-MH program due to an acute mental health crisis on the postpartum period has been conducted.

**Results:** Ten mother-baby dyad were attended: 7 were on an avoidance admission regimen (two directly referred from the obstetric ward) and 3 were early discharged from a psychiatric inpatient unit. Three patients were admitted due to psychotic symptoms, 6 due a depression features and one due to manic symptoms. All of them were discharged to a minor intensity setting and none required of hospital admission after a month of the MH-HaH. At a year of follow-up, only one patient required a new hospital admission due to a relapse.

**Conclusions:** MH-HaH programs could be a safe and respectful alternative to psychiatric admissions with a low relapse rate. However, personalized approaches of the dyad / family as well as collaboration with the Perinatal Mental Health Units is required.

Keywords: Postpartum, Mental Health, Hospitalization at Home

# STABILISING NOTORIOUSLY UNSTABLE ANTIBIOTICS FOR SAFE USE IN HOME INFUSIONS

# SESSION 22: LINICAL PRACTICE AND ADVANCES - PART 2

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**Background and Aims:** Antibiotics via 24-hour infusers are a mainstay of hospital-level care at home. However, several are so unstable they cannot be used, due to rapid degradation (meropenem) or excessive toxic by-products eg pyridine (ceftazidime, ceftazidime-avibactam (ceftaz-avi)). We aimed to determine whether a simple cooling intervention could stabilise these antibiotics.

**Methods:** Stage 1: We incubated 24-hour infusers of each antibiotic at 6g/240mL at 4°C, 25°C and 33°C, and sampled to 24h. Stage 2: Volunteers simulated home treatment carrying insulated bags with infusers under 3 different conditions (mean/max temperature): Ice–: control (23/28°C); Ice+: icepack in silver-lined bubble-wrap inserted at T=0 (20/26°C); Ice++: 2 sequential icepacks at T=0 and T=12 ((17/23°C). High-performance liquid-chromatography was used to measure each antibiotic (effective >90%) and pyridine for ceftazidime/ceftazidime-avibactam (safe <0.2ug/mL).

**Results:** Stage 1: After 24h, antibiotic concentrations were: meropenem 97±1.8%, (4°C), 83±7.1% (25°C), 75±3.2% (33°C); ceftazidime: 98±1.2%, (4°C), 92±1.6% (25°C), 84±2.5% (33°C); ceftaz-avi 100±3.0% (4°C), 93±1.4% (25°C), 89±1.7 (33°C). For ceftazidime/ceftaz-avi, pyridine after 24h increased by 1.6-fold (4°C), 6-fold (25°C) and 12-fold (33°C), although only >0.2ug/mL at 33°C. Stage 2 showing maximum doses: Meropenem 6g had 24h concentrations as follows: Ice– 85±1.5%, Ice+ 90±2.7%, Ice++ 92±1.7%. Ceftazidime 12g and ceftaz-avi 6g remained >90% by 24h for all conditions. Pyridine production was 0.3ug/mL with Ice–, while Ice+ and Ice++ were <0.2ug/mL, reducing daily pyridine exposure by 52% and 57% respectively.

**Conclusions:** Simple, inexpensive addition of icepacks solves these instability and toxicity problems, so 24-hour meropenem, ceftazidime and ceftaz-avi infusions can be safely used at home.

Keywords: Home care, Acute, Intravenous antibiotics, Antibiotic infusers

# BLOOD DIAGNOSTICS IN HOSPITAL AT HOME: POINT-OF-CARE TESTING AND LABORATORY TESTING IN A LARGE HOSPITAL NETWORK

# **SESSION 23: TECHNOLOGY AND HAH – PART 2**

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**Background and Aims:** Understanding patient physiology through blood diagnostics has become increasingly critical for ensuring the safety of appropriate moderate and higher acuity patients in hospital at home (HaH) care. Point-of-care testing (POCT) and hospital laboratory-based testing are two approaches for obtaining such needed data—each having advantages and disadvantages. We provide an initial assessment, comparing POCT and laboratory testing in one of the largest HaH programs in the United States.

**Methods:** We reviewed laboratory testing and POCT data from Mass General Brigham's HaH program from Oct 2023–Aug 2024. We studied: (1) frequency of POCT and laboratory testing; and (2) availability and technique differences between POCT and laboratory testing.

**Results:** POCT accounted for 14.9% of HaH testing, while laboratory testing constituted 85.1%. BMP + hemoglobin/hematocrit (H/H) was the most common test for both approaches, followed by PT-INR and VBG. Laboratories offer more comprehensive testing, while POCT is currently limited to BMP + H/H, VBG + lactate, PT/INR, and glucose. POCT results within 5 minutes, while laboratory tests result within 3 hours from collection, depending on distance between patient's home and our 6 laboratory locations. Infrequent differences in methods between POCT and laboratory testing made for occasional discrepancies between results, demonstrating the very limited need for laboratory confirmation.

**Conclusions:** Blood diagnostics are a growing necessity of delivering acute care at home. Both POCT and laboratory testing are valuable options and an optimal hybrid approach to blood diagnostic testing is warranted to enable understanding of dynamic physiology for appropriate HaH patients.

Keywords: Point of Care Testing, Laboratory testing, Blood diagnostics

# A MODEL FOR PREDICTING REASONABLE LENGTH OF STAY OF PATIENTS RECEIVING HOSPITAL AT HOME PROGRAM IN TAIWAN—A MACHINE LEARNING APPROACH BASED ON ELECTRONIC HEALTH RECORDS

# **SESSION 23: TECHNOLOGY AND HAH – PART 2**

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**Background and Aims:** In July 2024, Taiwan launched the "Pilot Program for Hospitalat-Home," funded by the National Health Insurance (NHI). Initially, three conditions were included: pneumonia, urinary tract infection (UTI), and cellulitis. The NHI Administration set target and maximum length of stay for these conditions as follows: Pneumonia: 9 days (target), 14 days (maximum); UTI: 7 days (target), 9 days (maximum); Cellulitis: 6 days (target), 8 days (maximum). Appropriate patient selection is crucial, as expenses beyond these limits are not covered. This study retrospectively analyzed electronic medical records and applied machine learning to predict the reasonable length of stay, aligning with the program's needs.

**Methods:** Data were obtained from a tertiary medical center in central Taiwan, including all adults admitted from January 2018 to December 2022 with diagnosis of pneumonia, UTI, or cellulitis. After excluding cases with missing data, 31 clinical features were used for model development, including demographics, diagnosis, vital signs, lab data, and service use history. Four machine learning algorithms were employed: XGBoost, Random Forest, Logistic Regression, and Multilayer Perception (MLP).

**Results:** The final analysis included 4,352 pneumonia cases, 2,048 cellulitis cases, and 3,062 UTI cases. The Random Forest model achieved the highest accuracy: 71% for pneumonia, 74% for UTI, and 58% for cellilitis. The area under the ROC curve for predicting maximum length of stay was 69% for Random Forest in UTI.

**Conclusions:** Machine learning models can effectively predict the reasonable length of stay in a hospital-at-home program, aiding in patient selection and resource management.

**Keywords:** Hospital at Home, Machine Learning, length of stay, Electronic Health Records, Random Forest

# CENTRALIZING DISTRIBUTED CARE: HOW TECHNOLOGY CAN HELP INTEGRATIVE CARE FOR PROGRAM SCALE

# **SESSION 23: TECHNOLOGY AND HAH – PART 2**

### Karen Titchener

Maribel Health, Hah Operations, Hanover, United States of America

**Background and Aims:** Managing a distributed workforce while coordinating care across various community locations presents complex challenges. However, rapid advancements in technology and data analytics are unlocking new possibilities, enabling "Hospital at Home" (HaH) programs to evolve into highly effective and innovative models of care. As these programs expand, leadership and operations often struggle to adapt existing workflows to maintain safe and efficient services. This is where a technology-driven centralized logistics team becomes essential.

**Methods:** This team must have a real-time understanding of patient status, clinician assignments, and operational needs such as urgent visits, transportation, and equipment delivery. With more acute care being provided in patients' homes and the increasing complexity of cases, technology becomes a crucial ally. Workforce shortages, burnout, and rising demand for hospital beds—driven by aging populations—further emphasize the need for digital solutions to support scaling home-based care.

**Results:** Aging populations and rapidly rising costs are driving a shift from facility-based care to the home and community and the patients and families also preferring home-based care. The HaH tribe has an opportunity to demonstrate internationally that by using of technology as a adjunct to in-person care there is a way to provide large scale care at an affordable price by developing new digital capabilities to effectively provide care in the home and community.

**Conclusions:** This talk will explore how various technologies, including point-of-care tools, remote monitoring platforms, logistics systems, and diagnostics, can enhance patient care in HaH programs, enabling them to provide safer, more efficient, and cost-effective care than traditional inpatient settings.

**Keywords:** Distributed Workforce, Workforce Shortages, Technology Advancement, Centralizing Care

# BEYOND READMISSION AND MORTALITY: SECONDARY OUTCOMES FROM A HOSPITAL-AT-HOME RANDOMIZED CLINICAL TRIAL

# **SESSION 24: QUALITY AND SAFETY**

<u>Michael Maniaci</u>, Wendelyn Bosch Mayo Clinic, Jacksonville, United States of America

**Background and Aims:** A persistent question about the newest model of hospital at home, the virtual hybrid model (where physcian care is 100% virutal in nature) is whether quality metrics can be compared to brick-and-mortar given the eligibility requirements for hospital-at-home. Our randomized trial created comparable cohorts to identify, as much as possible, what outcomes differ as a result of being home rather than other factors. The aim of this study is to examine whether a new Hospital-at-home program enabled by digital technologies leads to similar clinical outcomes to traditional brick-and-mortar hospital care.

**Methods:** Patients requiring hospital care were 1:1 randomized into two parallel groups: intervention (i.e., the hospital-at-home program) and control (i.e., the traditional brick-and-mortar hospital care). Secondary outcomes include the quality of life measured by EQ-5D, patient experience, hospital-acquired infections, 7 day readmission rate, patient falls, medication errors, mobility statistics, and use of skilled nursing care facilities after discharge.

**Results:** A total of 1150 patients were randomized to either intervention (573 patients) or control (577 patients). The mean age was 67.8 (Standard deviation [SD] 16.3), and 52.2% was female. Outcomes on quality of life measured by EQ-5D, patient experience, hospital-acquired infections, 7 day readmission rate, patient falls, medication errors, mobility statistics, and use of skilled nursing care facilities after discharge are being processed and will be available for presentation for 2025.

**Conclusions:** A virtual hybrid hospital-at-home program has the same primary safety outcomes as brick-and-mortar and a much lower hospital-acquired infection and discharged to skilled nursing facility rate.

**Keywords:** Virtual hybrid, randomized control trial, secondary outcomes, Hospitalacquired infections, patient experience

# SAFETY AND EFFECTIVENESS OF A LARGE NATIONAL HOSPITAL AT HOME PROGRAM

# **SESSION 24: QUALITY AND SAFETY**

<u>Ronen Arbel</u>, Alexander Lustman, Talish Razi, Maya Lerner Shikori, Naama Katz, Shlomit Yaron, Doron Netzer Clalit Health Services, , Israel

**Background and Aims:** Hospital at Home (HAH) is a potential solution to the increasing demand for hospital beds; however, its scalability has been questioned. To date, no large trial has demonstrated its safety and effectiveness. Therefore, our objective was to evaluate the effectiveness and safety of Hospital at Home compared to traditional inhospital care.

**Methods:** We included all patients over 18 years old in Clalit Health Services, admitted to a general medical ward, acute geriatric ward, or the HAH program during 2022, with pneumonia, Congestive heart failure, urinary tract infection, or cellulitis as the primary diagnosis at discharge. The primary safety endpoint was all-cause mortality at 30 days, and the primary effectiveness endpoint was rehospitalization at 30 days. Adjustments were made for age, sex, social sector, obesity, smoking status, Charlson score (without age), and socio-economic status.

**Results:** 26,763 patients met the study criteria, 22,885 subjects in the hospital group, and 3,878 in HAH. 48.5% of subjects were male, and the median age was 78 years. At 30 days, the mortality among HAH patients was 5.4% compared to 10.0% for in-hospital patients adjusted odds ratio (OR) for mortality of 0.58 (p<0.001). The readmission rate at 30 days among HAH patients was 13% compared to 16% in hospitalized patients, adjusted OR 0.82 (p<0.001).

**Conclusions:** HAH can provide a safe and effective environment to treat patients who need hospital-level care and would otherwise be admitted to hospital wards. It has the potential to provide a scalable solution for the ever-increasing demand for hospital beds.

Keywords: Outcomes, Safety, Effectiveness

# SAFE AT HOME: PATIENT SAFETY DURING HOME HOSPITAL

# **SESSION 24: QUALITY AND SAFETY**

<u>David Levine</u><sup>1</sup>, Maela Whitcomb<sup>2</sup>, Julie Fiskio<sup>2</sup>, Catherine Yoon<sup>2</sup>, Meghan White<sup>2</sup>, John Orav<sup>2</sup>, Jeffrey Schnipper<sup>2</sup>

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**Background and Aims:** Home hospital (HH) was developed to avoid the common harms associated with brick-and-mortar (BAM) hospitalization. Recent data show at least one adverse event (AE) occurs in 23.6% of BAM patients. Despite growth, the safety of HH care outside of small tightly controlled single-site studies is relatively unknown.

**Methods:** We analyzed the electronic health record for all patients admitted into one of 3 HH programs in metropolitan Boston between 2/1/2020-8/10/2023. Automated trigger tools identified potential AEs. After excluding clearly ineligible cases, chart abstractors blinded cases for physician adjudicators who rated the AE's severity, confidence, and preventability, and ameliorability. A propensity-score matched control group was constructed.

**Results:** At the time of submission, unadjudicated (but chart abstractor reviewed) data for the 2829 HH patients were available. Patients had a mean age of 69.6 (SD, 18.4), 59% female, and 58% white. The most common admission diagnoses were heart failure, complicated UTI, cellulitis, pneumonia, and COPD. Overall, we identified at least one unadjudicated AE in 9.5% of patients. The highest rates were noted for heart failure (17%), diabetes (11%), and acute kidney injury (10%); lowest rates were for diverticulitis (2%), asthma (3%), UTI (4%), and COVID-19 (4%). The most common unadjudicated AEs were AKI, delirium, and hypoglycemia; hospital-acquired infections were rare.

**Conclusions:** In an ongoing analysis of real-world data of over 2500 HH patients, almost 10% of patients had at least one unadjudicated AE, lower than BAM. Results vary widely by reason for admission. Adjudication and comparison to a control group are forthcoming.

Keywords: Safety, Patient safety, adverse events

# COMPREHENSIVE GERIATRIC HOSPITAL AT HOME IN CATALONIA, SPAIN.

# SESSION 26: POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS - PART 1

Laura Mónica Pérez<sup>1</sup>, Marco Inzitari<sup>1</sup>, Lorena Villa<sup>2</sup>, Maria Velarde Aceves<sup>3</sup>, Ana González De Luna<sup>4</sup>, David Nicolás Ocejo<sup>5</sup>, Irene Pereta<sup>6</sup>, Oriol Planesas<sup>7</sup>, Aida Ribera<sup>7</sup> <sup>1</sup>RE-FiT Barcelona Research group. Vall d'Hebron Institute of Research (VHIR), Barcelona, Spain, <sup>2</sup>Department of Public Health, Mental Health and Mother-Infant Nursing, Faculty of Nursing, University of Barcelona, , Spain, <sup>3</sup>Parc Sanitari Pere Virgili, Hospitalización A Domicilio, Barcelona, Spain, <sup>4</sup>Parc Sanitari Pere Virgili, Barcelona, Spain, <sup>5</sup>Hospital Clinic de Barcelona, Hospital At Home Unit, BARCELONA, Spain, <sup>6</sup>Hospital Clinic Barcelona, Research Group, Barcelona, Spain

**Background and Aims:** Older patients undergoing comprehensive geriatric assessment (CGA), when admitted to the hospital, have better outcomes. Hospital-at-home (HaH) units, with a CGA approach, are similar to hospital admissions but with fewer long-term nursing home admissions at six months and fewer hospital-related complications such as delirium. Intermediate care (IC) facilities aim to help patients transition from hospital to home, focusing on rehabilitation and recovery. In Catalonia, an intermediate care hospital at-home unit (IC-HaH) started in December 2017 and operates based on an interdisciplinary team and CGA-based functioning. We aim to explain the IC-HaH Catalan model's functioning, evolution and consolidation.

**Methods:** Administrative data from all HaH admissions (including IC-HaH) in the whole region of Catalonia (2017-2023) were obtained through the Data Analysis Program for Health Research and Innovation (PADRIS) and analysed to understand the admission case mix. The IC-HaH model includes a multidisciplinary team (geriatricians, nurses, physiotherapists, occupational therapists, and social workers) providing patient-centred care.

**Results:** The 48.2% of patients admitted to cute HaH in Catalonia were over 65 years [mean age (DE) 62.6(22.3)] and 53.7% female]. 11.4% presented a history of falls, 11.8% had cognitive problems, and according to the frailty index eFRAGILCAP, 40.3% had any frailty degree. The IC-HaH has provided care to 1180 patients (mean age(SD)=82.7(10.0), 93.7% over 65 yo, 55.8% female); 63.5% presented disability, 33.5% history of falls, 29.5% cognitive problems, and 83.3% had some frailty degree.

**Conclusions:** In Catalonia, CGA-HaH is emerging as a complementary model of HaH to attend to a growing population of older adults with geriatric syndromes and frailty.

**Keywords:** geriatrics, older adults, comprenhensive geriatric assessment, Intermediate Care

# UTILISATION OF A VALUE DRIVE OUTCOMES (VDO) FRAMEWORK IN HOSPITAL-AT-HOME

# SESSION 26: POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS - PART 1

Shi Yun Low<sup>1</sup>, Htet Htet Aung<sup>2</sup>, <u>Shikha Kumari</u><sup>2</sup>, Stephanie Ko<sup>1,3</sup> <sup>1</sup>National University Health System, Nuhs@home, Singapore, <sup>2</sup>National University Health System, Value Driven Office, Singapore, <sup>3</sup>National University Hospital, Department Of Medicine, Singapore, Singapore

**Background and Aims:** Hospital-at-Home (HaH) offers a viable solution to increasing demand for inpatient care. To optimise its benefits, it is crucial to ensure HaH remains both effective and economically sustainable. This study describes the implementation of a Value-Driven Outcomes (VDO) framework in a HaH programme to evaluate care quality, associated costs, and demonstrate programme sustainability.

**Methods:** A VDO dashboard consisting of quality and cost measures was created for a HaH programme in Singapore. Quality measures included: 30-day emergency readmissions, unexpected mortality, return-to-hospital rates, patient safety events, and overall patient experience. Costs were defined as total expenditure per care episode. Quality outcomes were aggregated into a clinical quality outcomes index (CQI) (defined as no 30-day readmission, no unexpected mortality, no return-to-hospital, no patient safety event, and overall patient experience score of <8) and compared against costs. To demonstrate utilisation of the VDO dashboard, descriptive data was collected for patients discharged from HaH between May 2022 to June 2024.

**Results:** Over 2 years, 1,962 patients were admitted to HaH representing substitution of 11,706 bed days. The VDO dashboard enabled real-time monitoring, allowing for timely adjustments and continuous quality improvement. Since implementing the dashboard, CQI improved from an average of 81% to 84%, and the average cost performance per episode decreased from SGD\$8,935 to SGD\$5,152. Overall, compared to pre-VDO implementation, there was a 7.7% improvement in CQI and a 7.8% decrease in average cost.

**Conclusions:** The VDO approach demonstrated that HaH programme in Singapore effectively balances high-quality patient care with cost-efficiency, proving it as a sustainable healthcare model.

Keywords: Value-Driven Outcomes, Healthcare Efficiency, Hospital-at-home

# THE ROLE OF PRACTICE ADAPTION IN IMPLEMENTATION OF HOSPITAL AT HOME SERVICES

# SESSION 26: POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS - PART 1

<u>Sophie Mcglen</u><sup>1,2</sup>, Daniel Lasserson<sup>3</sup>, Sarah Wooley<sup>1</sup>, Innan Sasaki<sup>1</sup>, Graeme Currie<sup>1</sup> <sup>1</sup>Warwick Business School, , United Kingdom, <sup>2</sup>Oxford University Hospitals NHS Trust, Oxford, United Kingdom, <sup>3</sup>Warwick Medical School, , United Kingdom

**Background and Aims:** Introduction Although Hospital at home (HaH) interventions are well established, we do not understand the service and organizational factors, necessary to sustain implementation over time. We investigate this, identifying specific professional practices and associated contextual factors which support implementation.

**Methods:** A comparative case study, encompassing four sites (including 79 interviews and 10 observations with HaH staff and policy makers) in the UK NHS.

**Results:** We find that implementation involves reconfiguring care delivery by integrating three adaptive practices involving: ·Improvising care E.g. using torchlight to assist venipuncture or coat hangers for intravenous infusions at home ·Substituting care E.g. embedding point of care testing or remote monitoring to replace inpatient processes ·Augmenting care E.g. expanding professionals scope to deliver a wide variety of clinical processes, seeing patients at home to support holistic care delivery Successful practice adaptions occur when, leaders/organizations establish supportive change contexts encompassing the following attributes : ·Inclusion of lead clinicians (clinical innovators) with prior experience of adapting clinical practices. ·a system for generational learning/mentoring between clinical innovators and MDT members ·experimenting/testing new HaH modes of working with traditional (hospital based) clinical practitioners. ·senior management support

**Conclusions:** Discussion HaH services present an implementation challenge in healthcare. Professionals must adapt traditional hospital-based interventions to deliver care at distance, in non-clinical settings, through practices focused on improvising, substituting and augmenting care processes. This is facilitated when leaders/organizations create supportive change contexts for implementation. Further research is needed to explore the role these factors play across different service settings.

Keywords: Implementation, Adaptation, Hospital at Home, clinical practice

# DEVELOPMENT OF MULTIFUNCTIONAL TOOLS TO EVALUATE PATIENT OUTCOMES IN HOME HOSPITALIZATION

# **SESSION 29: PATIENT & CAREGIVER EXPERIENCE – PART 2**

Irene Pereta<sup>1</sup>, Celia Cardozo Espínola<sup>2</sup>, Joan Fernando<sup>2</sup>, Olga Rubio<sup>2</sup>, Begoña Ibañez<sup>1</sup>, Lorena Villa García<sup>3</sup>, Laura Mónica Pérez<sup>3</sup>, Aida Ribera<sup>4</sup>, <u>David Nicolás Ocejo<sup>1</sup></u> <sup>1</sup>Hospital Clinic Barcelona, Hospital At Home, Spain, <sup>2</sup>Hospital Clinic de Barcelona, Hospital At Home Unit, BARCELONA, Spain, <sup>3</sup>Parc Sanitari Pere Virgili, Hah, Spain, <sup>4</sup>Parc Sanitari Pere Virgili, , Spain

**Background and Aims:** Hospital at Home (HAH) aims to reduce traditional hospital admissions by delivering equivalent care in the home, prioritizing safety and quality. As HAH expands, evaluating its impact on patient outcomes, experiences, and healthcare systems becomes crucial. This project, funded under codes PI22/00890 and PI22/00845, explores how HAH affects patients, caregivers, healthcare professionals, and policymakers.

The primary objective is to create and implement tools to assess Patient/caregiver-Reported Experience Measures (PREMs) and the economic impacts of HAH. Additionally, the project aims to understand the experiences and needs of those involved in HAH, focusing on how it influences their healthcare journey and decisions.

**Methods:** The project utilizes patient journey mapping, focus groups, and Delphi panels with experts to identify critical domains impacting patient/caregiver experience. Qualitative research methods gather input from patients, caregivers, and professionals. PREMs are adapted from literature and tailored to HAH. Cognitive interviews with patients refine the tools for usability, followed by psychometric validation studies.

**Results:** Preliminary findings reveal a significant knowledge gap in the literature on HAH-specific PREMs, with only nine articles addressing this issue. Initial focus groups have identified 12 domains and 182 potential questions, which are currently being refined into a final 10-20 item questionnaire.

**Conclusions:** These tools will fill a critical gap in HAH evaluation, enhancing patientcentered care and providing valuable insights for healthcare providers and policymakers. Once validated, they will contribute to improved outcomes and efficiency in HAH services.

Keywords: patient experience, PREMS, Quality, mesurement tools

# THE EXPERIENCE OF FAMILY CAREGIVERS WHEN THEIR LOVED ONE IS HOME HOSPITALIZED: A MIXED METHODS ANALYSIS OF A RANDOMIZED CONTROLLED TRIAL

# SESSION 29: PATIENT & CAREGIVER EXPERIENCE – PART 2

Ryan Brewster<sup>1</sup>, Meghna Desai<sup>1</sup>, <u>Sarah Findeisen</u><sup>1</sup>, Stephanie Blitzer<sup>1</sup>, Rachel Moyal-Smith<sup>1</sup>, Michelle Grinman<sup>2,3</sup>, Mary Barthel<sup>4</sup>, David Levine<sup>1</sup> <sup>1</sup>Ariadne Labs, Boston, United States of America, <sup>2</sup>University of Calgary, General Internal Medicine, Canada, <sup>3</sup>Alberta Health Services, , Canada, <sup>4</sup>Blessing Health System, , United States of America

**Background and Aims:** Home hospital (HH) has benefits; however, the experiences of and potential burdens faced by family caregivers (FCs) remain understudied. We completed an international randomized control trial (RCT) of HH in three rural sites in the U.S. and Canada compared to brick-and-mortar (BAM) hospitalization. We conducted a mixed-methods analysis to characterize the experience of FC in the RCT.

Methods: We surveyed caregivers of HH and control patients at admission and within 30 days of discharge. The survey included sociodemographics and Zarit Burden Interview-12 (ZBI-12; range 0-48, ≤10, no-to-mild burden; 11–20, mild–moderate; >20, high). Additionally, we conducted semi-structured interviews until saturation and applied thematic analysis.

**Results:** Thirty FCs (20 home; 10 control) were predominately white (73.3%), female (93.3%), and the patient's spouse/life partner (63.3%). Home FC median burden was 4 (IQR 2-9.3) on admission and 6 (IQR 3.3-8) on discharge. Control FC median burden was 5 (IQR 0.25-9.25) on admission and 7.5 (IQR 2.5-11.75) on discharge. There was no significant difference in burden between groups on admission (p=0.723), discharge (p = 0.309), or change from admission to discharge (difference, 0 [IQR -2.5-3] vs. 1.5 [IQR 0-3.5], p=0.269). HH FCs were satisfied with the care patients received and valued the collaborative approach of HH clinicians regarding decision-making.

**Conclusions:** FCs in HH and BAM had mild burden throughout hospitalization and HH FC burden was not different from control FCs. HH FCs described high levels of satisfaction and engagement. Further research can inform interventions to support HH FCs.

**Keywords:** Caregiver, caregiver experience, Home Hospital, Family Caregiver, rural home hospital

# SELF-REPORTED MEASURES OF INFORMAL CAREGIVERS OF OLDER ADULTS RECEIVING HOME CARE: A SYSTEMATIC REVIEW

# **SESSION 29: PATIENT & CAREGIVER EXPERIENCE – PART 2**

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**Background and Aims:** Hospital at home is an effective, safe and efficient alternative to conventional hospitalization. It has shown to improve the relationship between the care recipient, the informal caregiver, and the healthcare team, thereby enhancing satisfaction and adherence. Given that the caregiver plays a crucial role when care is transferred to the home, it is important to evaluate and monitor their experience and outcomes. Thus, we aimed to identify and describe the instruments for measuring caregivers' self-perceived outcomes and experience (PROMs/PREMs) in home care for older adults.

**Methods:** We performed a systematic review according to PRISMA guidelines. We conducted literature research on MEDLINE, Scopus, and EMBASE from its inception to May 2023. In the main review, we included articles reporting on development, validation and evaluation of PROMs/PREMs of older adults or their informal caregiver. For the present analysis we selected articles reporting on caregivers' perceptions.

**Results:** From the 375 articles included in the main review, we selected 31, published since 2002, reporting on 18 PROMS/PREMS of caregivers caring for patients with dementia (26%), mental health problems (10%), stroke (10%), or other mixed conditions. Most instruments measured caregivers' stress or burden (the Zarit Burden Interview being the most widely used), but also quality of life, skills or positive aspects of caregiving.

**Conclusions:** Our ongoing search will allow us to select instruments best suited to evaluate relevant outcomes and experiences of informal caregivers in the hospital at home setting.

Keywords: caregivers, Hospital at Home, PROMs, PREMS, homecare

# FRAILTY HOSPITAL AT HOME (H@H): NUMBERS NEEDED TO TREAT TO AVOID AN UNPLANNED ADMISSION TO HOSPITAL

# SESSION 30: POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS - PART 2

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**Background and Aims:** East Kent Frailty H@H provides an alternative to admission to an acute hospital for frail people who are acutely unwell. Treatment at home is often the preferred option for people living with frailty and prevents some of the complications associated with hospitalisation such as environmental delirium, loss of function, isolation from usual contacts and infection. However, it was not known whether H@H also reduced the workload of the acute hospital.

**Methods:** Frail people who are acutely unwell are offered treatment in a Frailty H@H instead of admission to an acute hospital. Referrals were made by community clinicians, general practitioners, community nurses, Single point of access, paramedics etc. Interventions include a comprehensive geriatric assessment where patients are asked what is important to them, point-of-care blood tests, ultrasound, virtual monitoring, urgent x-ray, CT and MRI scans and intravenous therapies at home. Data were collected using electronic records for the community and acute hospital services.

**Results:** East Kent Frailty – SPC Prediction



#### NEL and corridor activity follow the prediction line **relatively closely** before and after the Covid 19 period. Since the Virtual Ward 'live' date, there is a **significant drop** in NEL and corridor activity relative to the prediction.

Outputs - East Kent

# Frailty

Key information									
PCN Geography East Kent Grouping Pathway					e Frailty	Cohort O	over 75s	Average a of contact	ge 83.4
Analysis period Impact analys			Impact analysis	s	Financial analysis				
Date of first	Apr 2	2	o admissions fall further	Below	Background financial data for this virtual ward				
admission		- k	elow predicted admissions Ifter the VW is 'live'?		Financial reporting period			Oct 22 to Dec 23	
Analysis start	Apr 2	2	() / adminutions appropriated	1.03	Total spend in reporting period				£3,974,758
date ('live' date)	- Abi z		with one avoided NEL		Total 'set-up cost' (all costs before ward went 'live')			t 'live')	£0
Analysis end	Dec 2	3	Idmission		Costs and benefits				
Ward admission		E	stimated avoided hospital		Cost/benefit period Oct		Oct 22 to Dec 23		
volume during 6115		t	idmissions associated with his ward in analysis period	4181	Total spend in cost/benefit period				£3,974,758
analysis period					Ward admissions in cost/benefit period				4720
Equity of access analysis				Average cost per virtual ward patient £842				£842	
Ethnicity Deprivation		Deprivation		Annualised gross spend				£3,179,806	
Ethnicity coding completeness	Ethnicity coding 70% IN completeness		IMD coding completeness	100%	Annualised avoided hospital admissions associated with this ward		ociated	3345	
% non-white population over/under-represented 5%		% core20 population over/under-represented	6%	Value of one of	avoided hospital (	admission (Ior	ng stay)	£4,974	
		100%	Value of one avoided hospital admission (short stay)			£772			
Data % referral source/reason complete			00%	Annualised gross benefit £10,703,1				£10,703,122	
issues: % ward name complete (if multiple wards in PLDS)			100%	Annualised net benefit				£7,523,316	

**Conclusions:** Before the introduction of H@H the number of non-elective admissions plus the corridor activity closely matched the predicted number of admissions. Since the introduction of the H@H there is a significant drop in the number of non-elective admissions plus the corridor activity compared to predicted admissions. This number (~400 per month) is similar to the number admitted to H@H. H@H data validated by NHS England has demonstrated that for every 1.03 patients treated in H@H 1 non-elective admission to the acute hospital was avoided.

**Keywords:** Frailty, Numbers needed to treat, unplanned admission avoidance, urgent care hospital at home

# OPTIMIZING PEDIATRIC HOME HOSPITALIZATION: A TIME-BASED ANALYSIS OF PATIENT VISITS

# SESSION 30: POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS - PART 2

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<sup>1</sup>Hospital Sant Joan de Déu, Hospitalització Domiciliària, Esplugues de Llobregat, Spain, <sup>2</sup>Routal, , Spain

**Background and Aims:** Home hospitalization is a suitable option for stable acute pediatric patients from 0 to 18 years old. SJD a Casa, the name of our program, enrolls different types of illnesses: respiratory infections, OPAT, oncologic patients and other. In our program, there is a high patients' turnover, with 4 days of admission on average. In order to optimize door-to-door visits, we use a route planner with a predefined time per visit of 20 minutes per patient. As patients' characteristics are clearly different it is difficult to calculate time of visit per patient, and thus, it is complicated to regulate the number of patients per day. In order to improve the staff organization, to know the time per visit attending patients' characteristics would be of interest. The aim of this study is to identify the time per visit for the most relevant type of patients.

**Methods:** Patients are classified according to pathology and age. We enter this characterization into the route planner and we use the GPS information to know the time per visit of each patient. Results are presented in averages.

**Results:** Our preliminary results show the following times per visit: 40 minutes for OPAT patients, 13 minutes for respiratory patients, 22 minutes for chronic patients and 42 minutes for oncologic patients.

**Conclusions:** This characterization allows the program to be more efficient, allowing staff to organize better daily census.

**Keywords:** Pediatric home hospitalization, Visit duration, Patient classification, Staff organization

# HOSPITAL AT HOME PRACTICE STANDARDS FOR THE UNITED STATES

# SESSION 30: POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS - PART 2

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**Background and Aims:** Despite increases in Hospital at Home (HaH) in the US, no national practice standards and unknown standardization across programs exist.

**Methods:** The HaH Users Group (HaHUG) is a national body of HaH programs. A 21person workgroup first assembled all existing international standards, gray literature, and existing documents from active programs. The workgroup developed the categories, individual standards, and each standards' associated items. A program met a standard if it had half, exceeded if it had more than half, and did not meet with less than half of the associated items functioning. HaHUG member programs voluntarily self-assessed their programs using the practice standards. Responses were anonymous.

**Results:** Final practice standards included 31 standards in 7 domains: leadership; education and training; human resources management; information systems and management; quality and quality improvement; safe practice and environment; and clinical standards and protocols. Individual standards included protocols for the role of family caregivers or for emergency response, for example. Twenty-six programs (35%) and 55 hospitals (29%) completed a self-assessment. Hospitals self-assessed they exceeded 57% of the standards, met 39%, and did not meet 4%. Hospitals performed best in the information systems and management category (100% met or exceeded) and worst in leadership (93% met or exceeded) and safe practice/environment (93% met or exceeded).

**Conclusions:** We crafted a novel set of practice standards for HaH. Reassuringly, most programs met these standards nationally, yet across the country there are clear areas of strength and room for improvement as the country standardizes its practices.

Keywords: practice standards, standardization, standards

# **BIOPSYCHOSOCIAL NEEDS AMONG ONCOLOGY PATIENTS AT HOME**

# SESSION 33: SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** The Santé Service Foundation provides hospital-at-home (HAH) care for 1,900 patients each day in the greater Paris area. With expertise in chemotherapy, the foundation administers over 30,000 antineoplastic treatments annually. In addition to cancer-related care and treatment, patients may require biopsychosocial (BPS) interventions in their living environment.

**Methods:** We analyzed ICD-10 codes related to factors influencing health status and contact with health services among oncology patients aged 18 and above who received continuous care from Santé Service HAH in 2023. The factors included socioeconomic, psychosocial, and dietary potential needs.

**Results:** The mean age of the 3,061 patients was  $67.2 \pm 15.1$  years, 57.7% were women, and the median KI was  $40 \pm 10$ . Altogether, 64.9% of the patients had at least one BPS code. BPS codes were identified in 80.4% of palliative care patients, 69.8% of post-chemotherapy patients, and 68.9% of nutritional care patients. In terms of cancer type, BPS codes were more prevalent among patients with brain tumors (89.5%) and urinary tract cancers (79.5%), compared to a rate of 35.2% among breast cancer patients. Overall, the most common codes related to functional autonomy (47%) and socioeconomic difficulties (29%), and this was observed across all types of care and cancers.

**Conclusions:** This study shows the needs of patients in terms of supportive care not specific to cancer and its treatment. The growing number of cancer treatments administered at home should not blind us to the biopsychosocial dimensions of patient care.

Keywords: Biopsychosocial, Supportive Care, Oncology

# BRINGING PATIENT AUTONOMY TO THE FOREFRONT OF CARE: HOW CAN HOSPITAL AT HOME UNIQUELY SERVE PATIENTS WHO CHOOSE DISCHARGE AGAINST MEDICAL ADVICE?

# SESSION 33: SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** Discharge against medical advice (DAMA) is an issue with worldwide prevalence ranging from 2-20% of patients in the bricks and mortar hospital. Patients who leave against medical advice experience complications including higher rates of readmissions, complications from their underlying medical conditions, and higher mortality rates. Hospital at Home (HaH) offers a care setting for patients who are at risk of DAMA. The home can provide a chance to address the common causes of DAMA including communication breakdown, previous DAMA, family concerns and finances.

**Methods:** 3 healthcare systems reviewed their HaH admissions and patients that elected to enter HaH program instead of B&M DAMA.

**Results:** In the last twelve months, each institution had 1-4 HaH admissions redirected from DAMA.

**Conclusions:** Patients who refuse care or who are at risk for DAMA are often leaving the hospital for reasons unrelated to their medical care including concerns about family, cost of care, and time away from work. The health care team must understand their role in the process and how they can keep patients in a safe environment by improving communication and using shared decision making. Eliciting fears and concerns can help build trust and create a shared, effective care plan that can result in success for the whole team. Additionally, while DAMA may be related to concerns outside of their medical care, some patients may be perceived as uncooperative. By fostering better communication in the home setting, where patients feel more comfortable, we are better able to meet patients where they are and gain trust.

Keywords: AMA, Readmissions, Discharge Against Medical Advice, Communication

# EQUITY AND INCLUSION IN HOSPITAL-AT-HOME: AN INDIVIDUAL AND COMMUNITY ANALYSIS APPROACH

# SESSION 33: SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** As new HaH programs emerge and existing programs expand their offerings, it is imperative that we evaluate potential inequities in participation and quality outcomes. How can we study equity in HaH programs? This presentation highlights an innovation in studying social determinants of health by focusing on federal level data on zip/postal codes.

**Methods:** We employed a retrospective study of patients who were admitted to the Mayo Clinic Advanced Care at Home (ACH) program across three geographies: Eau Claire, Wisconsin, Jacksonville, Florida, and Phoenix, Arizona. De-identified patient level variables were retrieved from the hospital's electronic medical records. Community level data were publicly retrieved from the U.S. Federal Department of Health and Human Services Agency for Healthcare Research and Quality. Dependent variables included readmission to Mayo Clinic within 30 days of discharge, mortality within 30 days of discharge, and escalation back to the brick-and-mortar hospital. Independent variables on individual patient characteristics came from Mayo Clinic, including age, sex, severity of illness, marital status, race, ethnicity, and diagnosis. Independent variables on patient characteristics at the community level included the percentage of households without internet, population density, average household size, and the Gini Index.

**Results:** Outcomes did not vary according to race and ethnicity or population density; however, those served were not representative of the overall U.S. population according to race and ethnicity or percentage of internet access.

**Conclusions:** Using both individual and community level data enables programs to examine effectiveness in positive patient outcomes and identify areas of expansion of service to even more diverse patients.

Keywords: Health Equity, Social Determinants of Health
# PROVIDING QUALITY CARE IN AN UNCONTROLLED ENVIRONMENT. THE CHALLENGE OF SOCIAL SERVICES IN HOSPITAL AT HOME

### SESSION 33: SOCIAL, ETHICAL AND EQUITY ASPECTS

<u>Karine Wallach</u><sup>1,2</sup>, Corinne Petibon<sup>1</sup>, Marc Poterre<sup>3</sup>, Matthieu Plichart<sup>2</sup>, Fatima Laradji<sup>3</sup> <sup>1</sup>Fondation Santé Service, Social Services, France, <sup>2</sup>FONDATION SANTE SERVICE, Hospital At Home, LEVALLOIS, France, <sup>3</sup>Fondation Santé Service, Research Department, France

**Background and Aims:** Hospital-at-Home (HAH) provides high-level care for patients suffering from acute or chronic illnesses at home, avoiding conventional hospitalization. However, numerous factors can impede the feasibility and/or quality of homecare. These include isolation, functional dependence, caregiver frailty, unsuitability of the home, and socio-economic aspects. To ensure optimal HAH care in patients' own homes, these aspects require specific social expertise. This work outlines the activities of our social services department.

Methods: Data from our social service dashboard has been analyzed for the year 2023.

**Results:** In 2023, our social service team completed 6,119 actions for 2,582 (16%) HAH patients. Of these, 37% were treated for palliative care, 22% for complex dressings, and 12% for post-chemotherapy monitoring. The primary social issues involved home support (accessibility/adaptation of housing, establishment of assistance services for activities of daily living, meal delivery, remote assistance, etc.), administrative and economic support (help with administrative formalities, financial aid, etc.), and social support (situations of abuse, protection of vulnerable people, etc.). A total of 68% of the situations required reinforced and sustained social support, while 27% of the actions undertaken were motivated by a need to support the primary caregiver.

**Conclusions:** The provision of care in the home for patients who require high levels of support due to illness, age, or disability requires a comprehensive approach tailored to each individual's circumstances. HAH demands not only medical expertise but also social proficiency, encompassing an understanding of the patient's/caregiver's broader context, including the complexities of home care and the versatility of social action.

Keywords: social services, social environment, quality care, Hospital at Home

# HOW INTEGRATION OF CHANGE MANAGEMENT AND GAMIFICATION WAS USED TO IMPLEMENT A HOSPITAL AT HOME PROGRAM

#### **BEST POSTERS**

<u>Maria Lund Christensen</u><sup>1</sup>, Tatjana Dreisig<sup>2</sup>, Maria Normand Larsen<sup>2</sup>, Daniel Bjerregaard<sup>2</sup>, Maja Rasmussen<sup>3</sup>, Charlotte Demuth Von Sydow<sup>2</sup>, Thea Fischer<sup>2</sup> <sup>1</sup>Nordsjaellands Hospital, Department Of Pulmonary And Infectious Diseases, Hillerød, Denmark, <sup>2</sup>Nordsjaellands Hospital, Department Of Clinical Research,, Hillerød, Denmark, <sup>3</sup>Centre for Innovative Medical Technology, Odense, Denmark

**Background and Aims:** From April 2022 until May 2023, a feasibility study was conducted at the Department of Pulmonary and Infectious Diseases. Eligible patients, who were hospitalized, were offered a homebased admission as an alternative to traditional hospitalization. The innovation and research project Influenzer is a digital home-based admission model, where patients, through an app, can transfer their measurements to the hospital staff. Blood samples and intravenous antibiotics are handled in the patients' own home and the ward rounds are done virtually. Several new workflows were generated, related to the study and the home-based admission in general. The project team tried different strategies, when introducing the healthcare workers at the Pulmonary Diseases Unit to the new workflows. It ended up being an ineffective implementation, and there was a need for a better strategy before continuing the project at a new section.

**Methods:** A change management plan was developed, including a structured education plan with elements of gamification. During the implementation period at the Infectious Diseases Unit, the healthcare workers were presented to a NoMAD-inspired questionnaire at baseline, first follow-up, and second follow-up, and the median score was calculated.

**Results:** The results from the first and second baseline questionnaire showed an improvement from the baseline questionnaire.

**Conclusions:** The use of a well-organized change management plan combined with the use of themed days and gamification has made a positive impact on the implementation.

Keywords: Gamification, Healthcare workers, training, Implementation, New strategy

## HOME-BASED ELIGIBILITY ANALYSIS AND RECOMMENDATION TOOL (HEART): USING MACHINE LEARNING TO IDENTIFY IN-HOSPITAL PATIENTS FOR AT-HOME CARE.

### **BEST POSTERS**

<u>Francis Dignam</u>, Christopher Berry, Theo Christian, William Librata, Bianca Conway Alfred Health, Hospital In The Home, Melbourne, Australia

**Background and Aims:** AIM: To develop a robust and reliable tool for identifying inhospital patients who are suitable for at-home care. Utilising machine learning techniques, the HEART tool aims to support clinical areas with identifying and then prompting discharge disposition conversations and planning.

**Methods:** Method: Free text data was extracted from 3,414 Hospital-In-The-Home (HITH) admissions between April-2018 and April-2023. Named-Entity Recognition was performed to extract key biomedical phrases and characteristics. Modelling these characteristics, revealed four patient phenotypes, which were validated as being accurate through retrospective analysis. Automation of a daily report which scored patients receiving in-hospital care against the four phenotypes, ranking them by similarity. The results were then published for clinician review and suitability discussions.

**Results:** During the prospective evaluation, 287 patients were reviewed with 33% scored as 'suitable for home-based care', 34% 'monitor and review in 24-hours', 11% 'not feasible due to current service design' and 21% 'not eligible for home-based care'. When rolled out to General Medicine, a less than 40% suitability cut-off was set, resulting in 104 patients reviewed with 27% scored as 'suitable for home-based care', 38% 'monitor and review in 24-hours' 20% 'not feasible due to current service design' and 8% 'not eligible for home-based care'. Ward areas and relevant home-based programs were notified of patients who were screened as suitable.

**Conclusions:** Conclusion: The HEART tool demonstrates a machine learning approach to identify people eligible for home-based care, whilst maintaining clinician decision making. Additionally, this approach quantifies patient groups for new homecare models.

Keywords: Machine Learning, Artificial intelligence, Screening and suitability for HITH

# HOME CHEMOTHERAPY IN COLOMBIA: BUILDING EXPERTISE IN A MIDDLE-INCOME COUNTRY

### **BEST POSTERS**

<u>Catalina Hernandez Florez</u><sup>1</sup>, Rocio Quino Avila<sup>2</sup>, Monica Arevalo Zambrano<sup>1</sup>, July Russi Noguera<sup>1</sup>, Raul Murillo Moreno<sup>1</sup>

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**Background and Aims:** Despite universal health insurance, out-of-pocket expenditure and transportation barriers for patients with functional impairment frequently restraints attendance to chemotherapy in Colombia. A collaborative effort between the Oncology Center and the Hospital at Home service at the Hospital Universitario San Ignacio allowed to implement the delivery of at-home chemotherapy, the first program of its nature in Colombia. Objective: To report on the implementation of home chemotherapy in a middle-income country.

**Methods:** We collected data from January to August 2024. Eligibility criteria comprise age  $\geq$ 18 years old, first course of treatment intramurally administered (in- or outpatient), live within ninety minutes of the hospital, adequate social support. A description of clinical variables and toxicity is reported.

**Results:** Forty-six patients were included, mean age sixty-four years old, fifty-six percent males. About forty-four percent of patients were in-hospital at home, most of them with hematological malignancies. In total nineteen patients have solid tumors, the most common were breast and prostate cancer. Overall, two hundred fourteen sessions were delivered; azacitidine was the most frequently administered drug (N=ninety-nine), followed by fulvestrant (N=nineteen), bortezomib (N=fifthteen), and others. Sixteen sessions were cancelled mainly due to infection (N=seven) and neutropenia (N=five). No short-term toxicity was observed but one patient under treatment with blinatumomab Developed viral pneumonia and died after transferred to the ICU.

**Conclusions:** Delivering at-home chemotherapy is feasible and safe within a close collaboration between at-home healthcare programs and oncology centers. Suitable eligibility criteria and safety protocols are essential to improve patient's access to chemotherapy in middle-income countries.

Keywords: Chemotherapy, Hospital at Home, Oncology

## AUGMENTING PATIENT CARE AT HOME WITH EXTERNAL NURSING VENDORS: STREAMLINING WORK PROCESSES

#### **BEST POSTERS**

<u>Jennifer Lu</u>, Emilie Soh, Emily Chung, Soh Yu Ting National University Health System, Nuhs@home, Singapore

**Background and Aims:** NUHS@Home partners with external nursing vendors to meet the growing demand for home-based care. However, the use of different operational and documentation systems across vendors posed significant challenges, leading to workflow inefficiencies, administrative burdens, delayed care, and inconsistencies in patient documentation. This initiative aims to streamline the integration of external nursing vendors by onboarding them onto a unified electronic medical record (EMR) platform, standardizing documentation processes, and optimizing logistical arrangements. The ultimate goals were to reduce inefficiencies, enhance patient safety, and improve care coordination.

**Methods:** A unified EMR platform was implemented, enabling external vendor nurses to access patient medical histories, care plans, and document directly into the system in real time. Additionally, logistical processes were optimized by pre-arranging the delivery of medical supplies and consumables to patient homes ahead of nursing visits, ensuring all necessary resources were on hand upon the nurse's arrival.

**Results:** The introduction of the unified EMR platform reduced the average time required to review documentation for complex cases by up to 65%. Beyond time savings, data accuracy improved due to the elimination of manual transcribing between different portals. Moreover, pre-arranged logistics enabled NUHS@Home and external nurses to increase patient visits by 50%, significantly improving care efficiency and reducing delays.

**Conclusions:** Streamlining work processes by integrating external nursing vendors into a unified EMR platform and optimizing logistical arrangements has greatly enhanced collaboration, reduced administrative workload, and improved patient care. This model offers a scalable solution for enhancing the efficiency of home-based care systems.

**Keywords:** external nursing vendor, EMR Integration, Patient Care Efficiency, care coordination, Healthcare Collaboration

# EXPLORING THE ROLE OF THE PHARMACIST WITHIN THE HOSPITAL AT HOME TEAM AT A TERTIARY CENTRE IN ENGLAND

#### **BEST POSTERS**

<u>Sophie Mcglen</u><sup>1</sup>, Ekambir Sahota<sup>2</sup>, Laura Sebuwufu<sup>1</sup>, Rosemary Lim<sup>2</sup> <sup>1</sup>Oxford University Hospitals NHS Trust, Oxford, United Kingdom, <sup>2</sup>Reading University, , United Kingdom

**Background and Aims:** Among the pivotal functions in HaH are prescribing, administering, or stopping medications, where pharmacists play a critical role, undertaking these tasks alongside the multidisciplinary team (MDT). However, there has been little research that investigates pharmacists' scope of practice in HaH.

**Methods:** A mixed-method research study was conducted using 1) audio-recorded semi-structured interviews with pharmacists, 2) observations of HaH MDT meetings and 3) self-recorded log of interventions they made during MDT meetings

**Results:** Four main themes were generated from the analysis: 1. Scope of practice extends beyond a "traditional" pharmacist. 2. Being open-minded to a changing scope of practice. 3. Active collaboration with MDT members underpins and expands role. 4. Is intentional about, and advocates for the provision of patient-centered care Pharmacists' varied scope of practice (e.g. participating/co-leading MDT meetings and conducting home visits) placed them in pivotal roles in patient care coordination, treatment planning, and decision-making. 100 interventions were recorded ranging from mild to severe potential harm. Pharmacists were open-minded and proactive in expanding the scope of H@H care, and their role. They continuously acquired new skills as they encounter and provide diverse care scenarios.

**Conclusions:** To our knowledge, this is the first study exploring the role of the H@H pharmacist in England, adding to the knowledge base in this emerging service delivery; pharmacists undertake non-traditional clinical roles in the team, work collaboratively with others to expand the service and their own skillset, to advocate for the need of patients.

Keywords: Pharmacy, Hospital at Home

# RED REFUSALS' AND THE LIFE-SAVING ROLE OF AN ADVANCED HOSPITAL AT HOME SERVICE

#### **BEST POSTERS**

#### William Mcmanus

Countess of Chester Hospital, Hospital At Home, Chester, United Kingdom

**Background and Aims:** COVID-19 has changed healthcare forever. We are seeing more hospital admission refusals despite severe and treatable acute illness ('red refusals'), due to both fear of COVID-19 as well as the media-driven anxiety around unprecedented emergency healthcare service pressures.

Here, we present the case of a previously well 73 year old male who, despite acute severe sepsis, refused hospital admission.

**Methods:** Hospital at Home reviewed the patient at home within 1 hour of referral, as part of NHS England's '2 hour' Urgent Crisis Response (UCR). Intravenous antibiotics and fluids were commenced immediately. Oxygen was delivered within 3 hours. Rate control and anticoagulation were commenced same day for new atrial fibrillation, confirmed on ECG. Carer calls and equipment to support remaining at home were put in place same day.

**Results:** Blood tests confirmed sepsis and acute kidney injury. Patient stabilised medically on intravenous treatment over the subsequent 48 hours. CT abdomen (within 3 days) confirmed biliary sepsis and gallbladder perforation. The case was discussed at hospital surgical MDT (within 6 days). Outpatient ERCP took place as a day case 3 days later, successfully removing a large gallstone and placing a biliary stent. Patient made a full clinical and biochemical recovery within 5 weeks of referral to Hospital at Home.

**Conclusions:** The case demonstrates the life-saving benefits of an effective acute Hospital at Home urgent response service for patients who would otherwise have a very low likelihood of recovery from such a presentation out of hospital.

Keyword: RED REFUSAL

# INTEGRATING MORBIDITY AND MORTALITY MEETINGS INTO CLINICAL GOVERNANCE FOR A HOSPITAL-AT-HOME SERVICE

#### **BEST POSTERS**

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**Background and Aims:** Morbidity and Mortality (M&M) meetings are a foundation of clinical governance in traditional hospital settings, serving as a critical tool for reviewing adverse events and identifying areas for improvement. As Hospital-at-Home (HaH) services continue to expand, integrating M&M meetings into these settings is equally essential for ensuring high-quality patient care and robust clinical governance

**Methods:** Our trust informatics team highlight patients who die within 30-days of a HaH clinical encounter. Patient notes are reviewed by senior team members monthly, and a selection of cases are presented as structured case reviews within the M&M meeting, focussing on adverse events, near misses and potential learning areas. It is important to consider to the unique context of HaH, where staff often work independently and face distinct challenges such as limited access to immediate peer support and hospital resources, as well as patient preference for admission avoidance/pragmatic care.

**Results:** Between January – June 2024, our data captured 2094 unique patients. 30-day mortality revealed 463 patient deaths (22%). 34 cases (7%) have been discussed in M&M, which either were not palliative patients, or there was learning points. The 30-day mortality for patients admitted to our local hospital is 8%. This highlights HaH serves a self-selected population, as well as being able to avoid conveyance to hospital by providing unmet urgent medical needs in the community before commonly transitioning to palliative care teams.

**Conclusions:** This M&M meeting has become the main driver in several improvements ranging from departmental policy and guidelines to workforce training opportunities.

Keywords: morbidity, clinical governance, mortality, improvement

# INNOVATIVE COLLABORATION TO IMPROVE PATIENT IDENTIFICATION FOR HOSPITAL-AT-HOME

#### **BEST POSTERS**

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**Background and Aims:** Identifying appropriate patients for Hospital at Home (HaH) from the pool of potentially eligible patients is challenging. Electronic health record (EHR)-derived algorithms can help expedite patient eligibility, thus saving clinician time. Our study presents an innovative partnership between Atrium Health (AH) HaH clinicians and data scientists to iteratively develop, test, and refine an algorithm for HaH patient identification.

**Methods:** In 2021, AH-HAH was establishing permanency in the healthcare system. A team was formed to address the barrier of patient acquisition. Using EHR data from six hospitals between March 2022-February 2023, the team applied a structured process for daily algorithm execution, sharing potentially-eligible patients, chart review, and HaH eligibility status determination and documentation —beginning with hospitalized pneumonia patients and expanding to other conditions. HaH clinician feedback was integrated to improve algorithm performance, assessed by primary outcome of proportion of HaH-enrolled patients identified via algorithm. Secondary outcomes included HaH clinician time saved and hospital bed-days saved.

**Results:** Our algorithm assessed 105797 hospital encounters. 2360 patients were enrolled in HaH including 805 patients sourced from the algorithm. The proportion of HaH-enrolled patients identified via algorithm increased from 7% in March 2022 to 60% in February 2023. Algorithm implementation was associated with >4 hours HaH clinician time saved per HaH-enrolled patient. Inpatient hospital bed-days saved due to algorithm-identified HaH patients increased from 24 to 420.

**Conclusions:** Findings demonstrate improved HaH-enrollment efficiency by implementing an iteratively-refined patient-identification EHR algorithm, thereby

promoting streamlined patient acquisition and enabling consistent HaH volumes while minimizing clinical team efforts spent on ineligible patients.

Keywords: EHR Algorithm, HaH Patient Acquistion, Innovative Collaboration

## PROTOCOLLED REFERRAL SYSTEM: ENHANCING PATIENT SELECTION FOR HOSPITAL-AT-HOME (HAH) FROM EMERGENCY DEPARTMENT

#### **BEST POSTERS**

<u>Ranjeev Kumar Nanta Kumar</u>, Kelly Chong, Rui Ling Tan, Sing Ee Low, Fiona Yoong, Phoebe Neo Yishun Health, , Singapore

**Background and Aims:** The effectiveness of HaH depends on selecting appropriate patients who can safety benefit from this model. At our hospital, a structured protocol referral system was introduced in Emergency Department(ED) as the first option for admission when clinically appropriate. This study evaluates how the protocolised referral system revealed improvements in referral accuracy and number, and reducing rejections rates by HaH team.

**Methods:** Screening criteria: Specific module base of diagnosis, logistical and social criteria is built into Electronic Health Records (EHR) to prompt clinicians to refer appropriate patients. ED clinicians will assist to screen suitable patients and trigger the referral process.

Referral workflow: Structured steps for processing referrals, defining the roles of physician, nurses, and coordination team

EHR Integration: Seamless and secured communication, data exchange between referring clinicians and HaH providers

**Results:** Preliminary results show increased referral accuracy and volume, and a 6% decrease in HaH team rejections. The protocol ensures early identification of suitable patients, optimizing resource use and reducing the healthcare burden while maintaining high care standards. Referral increased by 55% and HaH admission has increased by 81%.

Before Implementation	Mar	Apr	May	Avg
Referral to HaH	37	88	127	84
HaH Admission	29	47	69	48
Rejected Rate%	30%	45%	42%	39%
After Implementation	Jun	Jul	Aug	Avg
Referral to HaH	139	128	123	130

HaH Admission	87	90	84	87
Rejected Rate%	41%	30%	32%	34%

**Conclusions:** A protocolised referral system for HaH enhances patient transitions by standardizing criteria and workflow, leading to better patient selection, improved outcomes, and increased program efficiency

**Keywords:** Hospital-at-home, Protocolised referral, emergency department, Electronic Health Records, Referral workflow

# SAFETY AND EFFECTIVENESS OF HOME PARENTERAL NUTRITION: THE EXPERIENCE OF A BRAZILIAN HOME CARE COMPANY

#### **BEST POSTERS**

<u>Claudio Flauzino De Oliveira Oliveira</u><sup>1</sup>, Fernando Lopes<sup>2</sup>, Fabiana Cezar<sup>3</sup>, Heloisa Gaspar<sup>4</sup>

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**Background and Aims:** Introduction: Parenteral nutrition, often used in hospitals to supplement or replace oral feeding, can lead to extended stays and increased risks. Home care is a viable and safe option for the administration and monitoring of patients receiving parenteral nutrition therapy across different age groups. Objective: To describe the experience of administering home parenteral nutrition across age groups, focusing on safety, feasibility, clinical outcomes, and evaluating geographic distribution and duration of care.

**Methods:** A descriptive, retrospective study was conducted through the analysis of medical records of patients receiving home care with parenteral nutrition from Jan-2021 to Aug-2024.

**Results:** 129 patients were treated, 52% female, with a median age of 56 years (11.6% pediatric, 44.2% adult, 44.2% elderly). Among the home care modalities, 58.9% of patients were managed under home hospitalization (parenteral nutrition infusion accompanied by a nursing technician), and 41.1% under home care (daily nurse visits for therapy initiation and removal). Median duration of care was 115 days. Patients were distributed across nine Brazilian states, with the majority concentrated in São Paulo (71.3%). Discharge rate was 10.9%, mortality rate was 11.6% (66% of deaths occurred at home, all of them were on palliative care), with the remaining patients continuing treatment. Incidence of catheter-related bloodstream infections was 3.8%.

**Conclusions:** Conclusion: Home administration of parenteral nutrition is safe and feasible with proper infrastructure and trained personnel. Home care offers greater comfort and proximity to family, enables care for patients with mobility difficulties, reduces risks compared to hospital setting, and contributes to hospital bed management.

Keywords: PARENTERAL NUTRITION, Home Care

# AI FOR OPTIMIZING HOME HOSPITALIZATION NURSE SCHEDULING: BALANCING OPERATIONAL AND MANAGERIAL CONSTRAINTS

### **BEST POSTERS**

<u>Arnaud Roche</u><sup>1</sup>, Victoire Bach<sup>2</sup> <sup>1</sup>Sitex Sa, Plan les Ouates, Switzerland, <sup>2</sup>Hopia, , France

**Background and Aims:** This presentation examines the application of artificial intelligence (AI) for optimizing nurse scheduling in hospital at home organizations (HaH), balancing operational demands with employee expectations. The objective is to address the challenges of work-life balance in a variable work schedule context while actively involving nurses in managing their schedules. This approach aims to improve nurse job satisfaction and address the specific challenges of HaH. Scheduling management in HaH is characterized by high managerial workload, increasing demands from staff, and patient dissatisfaction due to caregiver turnover. Multiple operational constraints and the limitations of existing scheduling tools exacerbate these issues, particularly regarding the integration of specialties and resource management. Managing scheduling constraints, often time-consuming and complex, prevents managers from focusing on essential clinical and strategic projects.

**Methods:** This work is based on revising the nurse scheduling process and integrating an AI tool, Hopia, designed to optimize the operational management of the HaH service.

**Results:** The integration of AI results in significant managerial time savings, increased nurse accountability in managing their schedules, and optimized use of available resources.

**Conclusions:** The use of AI in nurse scheduling for HaH presents a promising opportunity to enhance operational efficiency and nurse satisfaction. Future perspectives include expanding the use of this tool to continue improving resource management and employees' work-life balance.

**Keywords:** Artificial Intelligence (AI), Hospital at Home (HaH), Human Resources, Healthcare Management, Work-Life Balance

# EXPERIENCES FROM SWEDEN'S FIRST DIGI-PHYSICAL, HIGH-ACUITY EARLY DISCHARGE HOSPITAL AT HOME PROGRAM

#### **BEST POSTERS**

<u>Philip Smith</u><sup>1</sup>, Linda Winterfeldt<sup>2</sup>, Linda Frisk<sup>2</sup>, Gunilla Wahlström<sup>3</sup> <sup>1</sup>Medoma AB, Stockholm, Sweden, <sup>2</sup>Capio S:t Görans hospital, Department Of Medicine, Sweden, <sup>3</sup>Uppsala University Hospital, , Sweden

**Background and Aims:** Early discharge hospital at home (EDHAH) programs have varied in efficiency, often due to limited digitalization. This study aims to evaluate the efficiency of a highly digitalized EDHAH program.

**Methods:** We conducted a single-center descriptive study assessing adult patients with acute medical conditions for voluntary EDHAH treatment as an alternative to traditional inpatient care. Primary outcomes included length of stay (LOS), daily care costs, visits per patient per day, and level of remote care.

**Results:** We enrolled 579 patients in the EDHAH program, treating 200 unique diagnoses, with 60% involving infectious diseases. The median age was 63 years (range 18-95), with 14.4% over 80 years old. One-fifth lived alone, and 48% were female. Median LOS in the EDHAH program was 3.1 days, preceeded by 2.2 days in the inpatient ward. Total median LOS was 5.8 days, versus 2.9 days for traditional inpatient care. Serious adverse events were absent, with a 6% escalation rate and a 30-day readmission rate of 6.4%, which was 25% lower than traditional inpatient care. The mean number of physical visits per patient per day was 1.5, with 40% of patient-related tasks performed remotely. The nurse-to-patient ratio in EDHAH was 20% lower than in traditional wards. Cost analysis for a common diagnosis (ICD J189) showed a 40% reduction in daily care costs compared to traditional inpatient care.

**Conclusions:** With advanced digitalization and adequate logistical support, EDHAH offers a cost-effective and resource-efficient alternative to traditional inpatient care, with comparable or better clinical outcomes. Further prospective studies are needed to validate these findings.

Keywords: Early Discharge, digi-physical, Hospital at Home, logistics, remote care

## ADDRESSING HEALTH-RELATED SOCIAL NEEDS IN HOSPITAL AT HOME THROUGH SYSTEMATIC, IN-PERSON ASSESSMENT AND REFERRAL TO COMMUNITY HEALTH NAVIGATORS

#### **BEST POSTERS**

Arsheeya Mashaw<sup>1</sup>, Chloe Eustache<sup>2</sup>, <u>Gregory Snyder<sup>2</sup></u> <sup>1</sup>Kaiser Permanente Northwest, Advanced Care At Home, United States of America, <sup>2</sup>Medically Home, Clinical, Quality & Safety, Boston, United States of America

**Background and Aims:** Kaiser Permanente Northwest (KPNW) implemented HaH in 2020 with Medically Home Group and had served over 3,200 patients at the time of evaluation. To improve transitional care management of HRSN during discharge from HaH, we evaluated the impact of an in-home HRSN assessment protocol. Pre-protocol: Virtual HaH nurses assessed home safety and HRSNs prior to HaH admission through a Social Stability Tool (SST) questionnaire. Post-discharge referrals to KPNW Community Health Navigators (CHNs) for HRSN evaluation and risk mitigation were placed as deemed appropriate.

**Methods:** HRSN Protocol: Starting April 2022, a standardized HRSN evaluation was added to in-home visits by an advanced practice provider (APP) on the day after HaH admission. This evaluation addressed 4-domain of HRSNs: financial strain, food insecurity, transportation, and housing stability. Identified HRSNs prompoted CHN referral to set HRSN risk mitigation goals. Pre-post implementation comparison was performed for a) CHN referral b) HRSN risk-mitigation tasks completed at one-month post-referral.

**Results:** One-third of patients were over 75, half were women, most were White and insured by Medicare through KPNW. Before the HRSN protocol, 96 of 1389 HaH episodes (7.7%) had CHN referrals. Post-implementation of the HRSN evaluation protocol, 60 of 322 episodes (18.6%) had CHN referrals. Additionally, task completion by the CHN at one-month post-referral increased from 77% to 80%.

**Conclusions:** Implementation of standardized in-home HRSN evaluation in HaH yielded higher CHN referral rates, and maintained high levels of HRSN task completion for the KPNW population. This suggests that protocolized assessment of HRSN in HaH supports transitional care management of HRSN during discharge from HaH.

**Keywords:** Hospital at Home (HaH), Health Equity, Health-Related Social Needs, Social Drivers of Health, Social Determinants of Health

# SAME-DAY PERCUTANEOUS ENDOSCOPIC GASTROSTOMY (PEG) FOR COMPLEX CANCER PATIENTS: A HOSPITAL IN THE HOME INITIATIVE

#### **BEST POSTERS**

Teagan Edwards, Rhys Hughes, <u>Vikas Wadhwa</u> Peter MacCallum Cancer Centre, , Australia

**Background and Aims:** A same day PEG insertion pathway that supports early patient discharge was implemented for complex cancer patients through our Hospital In The Home (HITH) service. Major aims were to determine the reduction in overnight bed stay with concurrent improvement in bed availability. Secondary aims were to assess patient experience and clinical outcomes.

**Methods:** A multidisciplinary team developed and implemented a unique same-day PEG pathway for eligible complex cancer patients residing within the HITH catchment area. Patients were predominantly those having head and neck cancer surgery. The process involved comprehensive staff and patient education, revised scheduling with prioritisation of patients to morning lists and early HITH consultation. Patient wait times for PEG, clinical outcomes, patient experience, and impact on bed stay were measured.

**Results:** Between November 2022 and June 2024, 136 PEGs were inserted, with 41 (30%) performed as same-day procedures and with a net saving of 41 overnight bed days. No complications or readmissions were reported, and patient feedback was overwhelmingly positive. Identified barriers to greater pathway utilisation included capacity limited access to morning theatre lists and patient ineligibility for HITH, either being out of catchment or medically unsuitable.

**Conclusions:** A same-day PEG pathway supported by HITH can be safe and effective for complex cancer patients, reducing length of hospital stay and associated inpatient costs and improving inpatient bed access. Further service expansion will require careful consideration of factors including further optimisation of theatre scheduling, broadening patient eligibility criteria and consideration of remote monitoring support.

Keywords: percutaneous, gastrostomy, multidisciplinary, cancer, pathway

# THE ROLE OF HOSPITAL-AT-HOME IN MANAGING DENGUE CASES IN SINGAPORE: A DESCRIPTIVE COHORT STUDY

#### **BEST POSTERS**

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**Background and Aims:** Dengue is a major public health issue in Singapore with periodic outbreaks straining limited healthcare resources. A Hospital-at-Home (HaH) programme to manage dengue cases could help alleviate demand for hospital beds. This study aims to evaluate the feasibility and effectiveness of a HaH model for dengue management in Singapore.

**Methods:** A retrospective descriptive cohort study was conducted on patients admitted to NUHS@Home, a HaH programme serving patients residing in western Singapore, between May 2022 to July 2024. Primary outcomes of interest included in-episode mortality, 30-day unplanned readmission, and return-to-hospital rate. Secondary outcomes were utilisation patterns in terms of length of stay (LOS) and home visit conducted.

**Results:** A total of 132 patients with a primary diagnosis of dengue fever were identified, representing 2.4% of all dengue inpatients in western Singapore. Mean age was 48 (SD 17) years, and 51% were male. 4 patients required escalation back to hospital due to hypoxemia, allergic reaction, acute leukaemia for investigation, and post dengue hyper-inflammatory state. 2 patients had unplanned 30-day readmissions for persistent dizziness and cancer complications. 1 patient died at home from non-dengue cardiac failure. The median LOS was 2.5 (IQR 2-3.3) days. On average, doctors conducted 3 home visits, while nurses performed 50 visits per 10 patients.

**Conclusions:** HaH for dengue management seems safe and feasible; more research needed on clinical outcomes, costs, and barriers to adoption.

Keywords: Dengue;, Dengue Fever, Home Care, Hospital-at-home

# IMPLEMENTATION OF THORACIC ULTRASOUND IN A PEDIATRIC HOME HOSPITALIZATION UNIT.

#### **CLINICAL PRACTICE AND ADVANCES**

Raquel Garcia, <u>Andrea Aldemira</u>, Carmen Villalón, Laia Baleta, Ane Achotegui, Carla Gonzalez, Sandra López, Elisenda Esquerdo, Marta Agüera, Astrid Batlle Hospital Sant Joan de Déu, Hospitalització Domiciliària, Esplugues de Llobregat, Spain

**Background and Aims:** Bedside thoracic ultrasound (TUS) is increasingly considered an useful and non-invasive tool for diagnosis and follow-up of acute pulmonary pathology in various settings, including pediatric hospitalization. Respiratory pathology accounts for a significant percentage of pediatric admissions, many of them HAH candidates, where access to complementary tests is limited and implies in most cases a transfer to hospital and associated inconveniences for patient and family. The aim of this study is to analyze bedside TUS usefulness in pediatric patients with acute respiratory pathology admitted at home.

**Methods:** Single-center descriptive study, with data analysis of patients admitted to the pediatric HAH between February 2024 and February 2025.

**Results:** In the preliminary results over a 5 months period, 11 patients were included, 90% (10/11) with respiratory pathology on admission: bronchitis (2/10), (broncho)pneumonia (6/10) and pleuropneumonia (2/10). 81% (9/11) had previous imaging tests: TUS (3/9) and/or chest X-ray (9/9). The reasons for ultrasound were: control in 55% (6/11), clinical worsening (fever and/or worsening pulmonary auscultation) in 45% (5/11). In 45% of patients (5/11), ultrasound findings led to a therapeutic change (80% in clinical worsening and 16% of clinical controls). Most frequent pathological ultrasound findings were consolidation (8/11), atelectasis (2/11) and pleural effusion (1/11).

**Conclusions:** Home thoracic ultrasound is a non-invasive method, fast and with easy acceptability and availability, and a support for clinical management at home, facilitating clinical follow-up and therapeutic decision of patients with respiratory pathology, in addition to avoiding trips to the hospital.

Keywords: Pediatric HAH, Pediatric, Thoracic ultrasound, Pediatric home care

### TREATMENT OF REFRACTORY HEART FAILURE IN HOSPITAL AT HOME (HAH). EXPERIENCE WITH HYPERTONIC SERUM AND TOLVAPTAM.

#### **CLINICAL PRACTICE AND ADVANCES**

<u>Gaston Araujo Espinoza</u>, Mireia Martínez Gil, David Clemente Torres, Lydia Ortega Polonio, Montserrat Carrasco Sanchez, Elizabet Cecilia Prades, Solange Platero Rpig, Helena Monzon Camps Hospital Universitario Mutua Terrassa, Hospital Al Home, Spain

**Background and Aims:** HAH represents an alternative for treatment of heart failure(HF), being a valid option in elderly patients. In our unit, represents the third cause of admission with average age of 80 years. Frequently we find cases of diuretic refractoriness that require other treatments to attempt decongestion. The aim of this study is to describe the treatments used in patients with diuretic resistance and the results obtained.

**Methods:** Descriptive retrospective study of patients admitted with HF and lack of response to high-dose intravenous furosemide between January 2022 and June 2024.

**Results:** We found 181 admissions for acute HF, 16 met criteria for diuretic refractoriness and were treated with hypertonic serum 2.4-3.5%. The mean age was 79.66 years, 93.75% were males. 81.25% presented a good diuretic response with a median weight loss of 8.5kg. Of those who didn ´t obtain improvement, in one of them (6.25%) we administered tolvaptam achieving the loss of 12 kg. The average stay was 19.8 days. As a complication, only two patients (12.5%) presented mild hypokalemia that was treated with oral supplement. Regarding follow-up at 6 months, 62.5% were readmitted for HF and 25% died.

**Conclusions:** With hypertonic serum we achieved weight loss in the majority of patients, with few secondary electrolyte alterations. In the case with hypertonic refractoriness, with tolvaptam as a third-line drug we obtained volume depletion. Readmission and mortality rates are higher than usual, but this is probably due to the type of patient treated. It would be advisable to extend the experience and the period of study.

Keywords: Heart failure, Hypertonic serum, Diuretic refractoriness

## REDUCING INFECTION RISKS OF ANTI-BCMA BISPECIFIC ANTIBODIES IN MULTIPLE MYELOMA: IN-HOSPITAL VS. HOSPITAL-AT-HOME TREATMENT

#### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Anti-BCMA bispecific antibodies (BsAbs) have shown durable responses in multiple myeloma (MM) patients, but infections are common. Hospital at Home (HaH) is increasingly recognized in MM management. This study compares the outcomes of anti-BCMA BsAbs treatment in a real-world HaH setting versus inpatient care.

**Methods:** This study included all consecutive triple-class and penta-refractory MM patients treated with teclistamab or elranatamab at ten Greater Paris University Hospitals (AP-HP) from July 2022 to January 2024. Data were sourced from the AP-HP Clinical Data Warehouse. Patients treated in AP-HP HaH were compared with inpatients, with a 180-day landmark after BsAbs initiation. Patients were selected for HaH or inpatient care based on clinical criteria, including health status, stability, and preference. Primary endpoints were grade III or higher infections and cytopenias. Secondary endpoints included survival and time to treatment failure.

**Results:** The analysis included 201 patients: 176 inpatients and 25 HaH patients. Median age was similar (73 HaH, 72 inpatients), but more HaH patients were over 75 (36% vs. 25.6%). Grade III or higher infections were less frequent in HaH patients (12% vs. 20.5%, p < 0.05), with higher amoxicillin prophylaxis use (58% vs. 28%, p < 0.05). Cytopenias and overall adverse events were comparable. HaH patients had higher complete (56% vs. 31.2%) and very good partial response rates (28% vs. 11.4%) than inpatients. Progression-free survival, overall survival, and time to treatment failure were similar, maintaining high efficacy in HaH care.

**Conclusions:** This study demonstrates that BsAb treatment in HaH is a safe alternative for MM patients.

Keywords: Hematology, Multiple Myeloma, bispecific

## CARE OF PATIENTS WITH BACTEREMIA IN THE SETTING OF A TELEMEDICINE-CONTROLLED HOSPITAL-AT-HOME SERVICE IS EFFECTIVE AND SAFE. A CASE-SERIES OF 28 PATIENTS

#### **CLINICAL PRACTICE AND ADVANCES**

<u>Galia Barkai</u><sup>1</sup>, Gad Segal<sup>2</sup>, Hila Hakim<sup>1</sup>, Noi Meersohn<sup>3</sup>, Or Dagan<sup>3</sup>, Iris Feingold<sup>2</sup> <sup>1</sup>Sheba BEYOND Virtual Hospital, Ramat Gan, Israel, <sup>2</sup>Chaim Sheba Medical Center, Education Authority, Ramat Gan, Israel, <sup>3</sup>St. George's University, Faculty Of Medicine, London, Israel

**Background and Aims:** Hospital-at-Home (HAH) is increasingly recognized as a viable alternative to in-hospital stay across various clinical settings. However, until recently, complex patients, particularly those with bacteremia, were not considered suitable candidates for HAH care. The purpose of this article is to describe a unique series of such patients.

**Methods:** A retrospective analysis was conducted on a group of patients with bacteremia who were treated in the setting of a telemedicine controlled HAH service.

**Results:** Twenty-eight patients with Blood Stream Infections (BSIs) were treated in our HAH service. 60.7% were female, with a patient median age of 77 years. Most patients (64.3%) were admitted from the internal medicine ward, 17.86% (5 patients) were admitted at their home, and 17.86% were admitted directly from the emergency department. A significant portion had severe comorbidities: 53.6% had a diagnosis of malignancy, 21.4% had dementia, 42.9% suffered from diabetes mellitus, 42.9% had chronic kidney disease, and seven patients (25%) were on continuous immunosuppressive medication. The mean length of HAH stay was 4.1 ± 2.0 days. The majority (67.9%) were discharged at home, while 28.6% required transfer to in-hospital care. One patient died during the HAH stay, and another died during the 30-day follow-up.

**Conclusions:** Telemedicine-controlled HAH service is a viable alternative to traditional in-hospital care for patients suffering from bacteremia. Careful patient selection and meticulous management during HAH care result in good clinical outcomes.

Keywords: Hospital-at-home, Bacteremia, telemedicine

## MANAGEMENT OF PRETERM PREMATURE RUPTURE OF MEMBRANES BETWEEN 24 AND 34 WEEKS: A BEFORE-AND-AFTER STUDY OF THE IMPLEMENTATION OF HOME CARE MANAGEMENT PROTOCOL

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** In cases of preterm premature rupture of membranes (PPROM), expectant management is preferred to reduce neonatal morbidity when no infection is present. While monitoring has traditionally been done through hospitalization, outpatient management is now an option, though selection criteria remain unclear. This study aims to compare obstetric and neonatal outcomes before and after the implementation and modification of a HCM protocol for PPROM patients introduced in April 2013.

**Methods:** The study included patients with PPROM before 34 weeks, admitted between January 1, 2011, and December 31, 2021. Patients were divided into two groups: Period A, where all were hospitalized until delivery, and Period B, where eligible patients were monitored at home. The primary outcome was the duration in days between PPROM and delivery. Obstetric and neonatal outcomes were compared between two periods.

**Results:** During Period A, 145 patients were included, and 394 in Period B, of whom 126 (32%) received HCM. Gestational age at PPROM was comparable between the periods (28.9 weeks ±3.1 vs. 28.9 weeks ±3.32, p=0.94), as were the latency period (13.9 ±19.9 days vs. 14.5 ± 16.8, p=0.77) and gestational age at delivery (30.8 ±3.26 weeks vs. 30.9 ±3.77, p=0.62). Early neonatal bacterial infections were significantly lower in Period B (42% vs. 31%; p = 0.018), as was the rate of intraventricular hemorrhage (24% vs. 6.2%; p < 0.01).

**Conclusions:** After implementing the HCM protocol, one-third of patients benefited from home monitoring. In PPROM cases, HCM does not extend the latency period but may reduce neonatal morbidity.

**Keywords:** preterm premature rupture of membrans, home care management protocol, latency period, neonatal issue

## 5-YEAR EXPERIENCE OF A HOME HOSPITALIZATION UNIT FOR ACUTE PEDIATRIC PATIENTS IN A TERTIARY LEVEL HOSPITAL.

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** HAH is a safe and effective alternative to conventional hospitalization. In our environment there are few pediatric HAH units for acute patients. In our center, a HAH program for acute pediatric patient started in 2019 with physicians and nurses who perform daily on-site and/or telematic visits, with 24-hour continuous care . Patients' requirements are clinical stability, house close to hospital, not language barrier and having a 24-hour caregiver at home. Nursing staff trains the family in specific care. Aim of the study: to describe typology of admissions, care provided at home and unit's continuous care.

**Methods:** Retrospective descriptive single-center study, with analysis of the unit's database.

**Results:** We include 2707 patients from November-2019 to June-2024, with a mean stay of 4 days and a mean age 4.8 years. According to referral area, 80% of patients came from Hospitalization ward, 11% from ER and 9% from Outpatient department. The main referral specialties were Pediatrics (78%) and Onco-Hematology (15%). Main pathologies were acute infections (50% respiratory). About specific care given at home: bronchodilators/oxygen therapy (45%), parenteral antibiotic therapy (32%), observation (11%), immunotherapy (3%). The rate of intravenous self-administration was 56%, no serious safety incidents recorded. Readmission rate: 5%. About continuous care, 975 patients were analyzed during 18 months. 59 calls were received and 38 visits to the ER in non-working hours were registered.

**Conclusions:** Pediatric HAH is a safe alternative for acute pathologies. It does not represent a significant care burden in continuous care. The main referral source is pediatric hospitalization and the main pathologies are respiratory infections. Self-administration is safe.

**Keywords:** acute pediatric home-hospitalization, continuous care, respiratory, oncohematology, Antibiotic therapy

# USEFULNESS OF HOSPITAL-AT-HOME IN NEPHROLOGY FOR RENAL TRANSPLANT PATIENTS

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Urinary tract infections (UTIs), often caused by extendedspectrum beta-lactamase (ESBL)-producing bacteria, frequently lead to hospitalizations within the Nephrology and Renal Transplant Service (NRTS). Hospitalat-Home (HaH) care could offer a viable alternative by potentially reducing nosocomial complications, lowering healthcare costs, and improving hospital efficiency. This study evaluates HaH care for patients with UTIs and/or urinary tract-related bacteremia referred to NRTS.

**Methods:** We conducted a retrospective analysis of patients treated in the HaH setting over the past four years for UTIs and/or urinary tract-related bacteremia. Collected data included age, sex, Adjusted Morbidity Group (AMG), associated comorbidities, causative pathogens, and antibiotic regimens. We compared lengths of stay between traditional hospital care and HaH care. Common pathogens included ESBL-producing Klebsiella pneumoniae, Escherichia coli, and Pseudomonas aeruginosa. Intravenous treatments administered were ertapenem, meropenem, ceftriaxone, and ceftazidime, given over an average of 10 days.

**Results:** Forty-eight patients were enrolled in the HaH program, 68.75% male and 31.25% female, with a mean age of 67 years. Predominant pathogens were ESBL-producing \*Klebsiella pneumoniae\* (37.5%), \*Escherichia coli\* (18.75%), and \*Pseudomonas aeruginosa\* (12.50%). Treatments included ertapenem (50%), meropenem (12.50%), ceftriaxone (10.42%), and ceftazidime (6.25%), with an average treatment duration of 10 days. Lengths of stay were similar: 12.55 days in hospital versus 12.42 days in HaH.

**Conclusions:** HaH care proves to be a safe and effective alternative for managing UTIs and bacteremia in nephrology patients. It offers comparable efficacy to traditional hospital care while reducing nosocomial complications and costs, thus enhancing overall system efficiency, especially for complex and multidrug-resistant cases.

**Keywords:** Hospital-at-Home (HaH) care, Urinary tract infections (UTIs), Extendedspectrum beta-lactamase (ESBL), Nephrology and Renal Transplant Service (NRTS), Multidrug-resistant infections

## HOSPITAL AT HOME RAPID NATALIZUMAB INFUSIONS FOR MULTIPLE SCLEROSIS: SAFETY EVALUATION AND PRE- AND POST-PARTUM ADMINISTRATION

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** The increasing use of infusible monoclonal antibodies, such as natalizumab, in the treatment of multiple sclerosis (MS) has heightened the demands on healthcare services. This study investigates the safety outcomes of administering natalizumab over 30 minutes via a home-based service attached to major metropolitan tertiary hospital, with a focus on safety and administration during pregnancy and post-partum.

**Methods:** We retrospectively analysed electronic medical records and MSBase data for patients who received 30-minute natalizumab infusions at home since August 2020. Data collected included age, sex, disability score, number of prior infusions, pre- and post-partum infusion history, John Cunningham Virus (JCV) monitoring compliance, infusion reactions, and cannulation competency were also documented.

**Results:** Thirty-two patients received natalizumab infusions at home [mean age 44.06], [93.7% female]. The range of prior infusions before transitioning to home service varied widely: [4-105]. No infusion reactions were reported in this cohort. John Cunningham virus monitoring compliance was 100%. Cannulation for a home-based service is a key factor for compliance [25% n= 8/32 25%] had more than one attempt at cannulation prior to administration. Pregnant women continued receiving infusions, [26.7% n=8/30] with post-partum re-initiation of natalizumab occurring early [mean15 days].

**Conclusions:** Administration of natalizumab is safe when administered via a Hospital at Home service. Safety and compliance were maintained in the home setting. Currently, Hospital at Home routinely cares for 53 patients with MS. Pre and post-partum natalizumab administration is safe and home-based services supports evidence-based treatment during vulnerable periods for women living with MS.

Keywords: Multiple Sclerosis, Pregnancy, Natalizumab, Rapid infusion

### AN INTERNAL MEDICINE MODEL FOR ACUTE HOSPITAL AT HOME

#### **CLINICAL PRACTICE AND ADVANCES**

#### Felice Borghmans

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**Background and Aims:** With demand outstripping hospital capacity, our aim was to develop a Hospital at Home service for acute internal medicine patients; a group previously representing less than 1% of homebased care activity.

**Methods:** Established March 2023, the 15 bed Internal Medicine Hospital at Home is staffed with senior and trainee doctors, nurse coordinators, outreach nurses, allied health, pharmacy, and administrative staff. Patients are streamed to the Internal Medicine Hospital at Home from emergency departments, clinics, wards, and community referrers. Twice daily multidisciplinary team huddles provide robust clinical review and oversight. Up to twice daily clinical outreach is supplemented with telehealth and clinic-based treatments. Complex discharge planning occurs throughout the care episode to foster sustainable health outcomes for complex patients. A data dashboard facilitates monitoring and evaluation of activity, healthcare quality, and patient experience in the model.

**Results:** Hospital at Home now provides 10% of Internal Medicine's acute activity. Patients are complex, with up to 30-plus health conditions, and 69% of patients are over 70 years old. The top 4 diagnoses are heart failure, cellulitis, kidney infection, and diabetes. Falls and medication misadventure are the highest presenting risks, making allied health and pharmacy invaluable resources. Patients' satisfaction is high at 97%, while outcomes are commensurate with in-hospital care.

**Conclusions:** The option of homebased care for acutely unwell complex patients is essential in view of rising hospital demand . Our multidisciplinary approach is safe, effective, efficient, and well-received by patients and referrers. Overwhelmingly, complex multimorbid patients value the option of receiving their acute care at home.

**Keywords:** Internal medicine, Complex patients, Multidisciplinary team, Patient centred care

### MODIFYING CEFAZOLIN USE FOR CHILDREN TO ENABLE ONCE DAILY USE AT HOME

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Aims Children needing intravenous antibiotics for moderately severe infections (eg cellulitis, UTI) can avoid admission via direct-from-ED-to-home treatment. Narrow-spectrum cefazolin for cellulitis is dosed 8-hourly, so in adults, probenecid co-administration delays excretion allowing daily dosing. Probenecid induces emesis in children, so paediatric home treatment relies on broad-spectrum daily ceftriaxone. We aimed to investigate the effect of an alternative, NSAIDs, on cefazolin in children, to determine if dosing frequency can be reduced.

**Methods:** After consent, we collected blood from two groups of children aged 1-17 years: either receiving cefazolin (50mg/kg) alone (CFZ), or cefazolin plus single dose NSAID (CFZ+NSAID). Serum levels of unbound cefazolin were measured in duplicate at varying timepoints after administration using high-performance liquid-chromatography. Time above minimum inhibitory concentration (T>MIC) of 2ug/mL for Staphylococcus aureus was calculated.

**Results:** There were 36 patients with 40 samples in the CFZ group, and 21 with 25 samples in the CFZ+NSAID group. For CFZ, T>MIC was 7.6h, while for CFZ+NSAID, this increased to 11.0h. Further, if NSAID was administered within 4h of cefazolin, T>MIC was 11.7h, a 1.5-fold increase. Lower serum albumin increased this effect. If cefazolin were dosed 24-hourly with co-administered NSAID, this extended duration of 11.7h is just short of the recommended minimum T>MIC (50%) for cephalosporins for stable patients.

**Conclusions:** NSAIDs significantly prolong effective cefazolin time above MIC. Ongoing studies will determine optimal timing including repeat dosing of NSAID to enable 24-hourly dosing in children, ensuring they too can benefit from narrow-spectrum antibiotics at home.

**Keywords:** Home care, Acute, Intravenous antibiotics, Hospital at Home care, Emergency pathways, admission avoidance

# EARLY CLINICAL OUTCOMES OF TOTAL KNEE REPLACEMENT (TKR) PROTOCOL WITH HOSPITAL-AT-HOME

#### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** In Singapore, NUHS@Home is a Hospital-at-Home (HaH) Programme model which offers an alternative to standard hospital care to facilitate home recovery. In 2024, NUHS@Home partnered with Orthopaedic surgery to develop a post-operative Total Knee Replacement (TKR) pathway; the first of its kind in Singapore. Patients were deemed suitable if NEWS score<4 within 48 hours after TKR surgery, able to ambulate at least 8m, premorbidly community ambulant and independent in activities of daily living (ADLs). The care protocol included daily tele-consult with a doctor, home visit by a nurse and home-based rehabilitation by a physiotherapist. Patients were discharged when rehabilitation goals were met

**Methods:** A clinical audit was conducted on all patients admitted into the TKR pathway from 17 July 2024 to 30 August 2024. Outcomes included: hospital readmission and hospital LOS.

**Results:** Fifteen patients underwent HaH programme following TKR surgery, 10 were female and mean age (SD) was 65.5 ± 19.8. The average inpatient hospital LOS (prior to HaH transfer) decreased from 3.1 days to 2.5 days in the first month and 1.78 in the second month. No patient readmission and mortality were documented.

**Conclusions:** HaH is a clinically feasible model to be adopted by Post-TKR surgery patients for rehabilitation. The unfamiliarity with HaH programme amongst the medical teams, patients and caregivers are key challenges, but this individually tailored, home-based programme in this largely elective and well population, with potential in reducing hospital bed related costs, hold much promise for the future. Further testing of the pathway is required to determine its effectiveness.

Keywords: Hospital-at-home, Total Knee Replacement, Rehabilitation

## EVALUATING INPATIENT HOSPITAL-AT-HOME AND EARLY SUPPORTED DISCHARGE PROGRAMS: PATIENT QUALITY OUTCOMES IN ONE OF THE LARGEST HEALTH SYSTEMS IN THE U.S.

#### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital-at-home (HaH) programs have many iterations worldwide. We describe the impact of two large homegrown HaH programs- CMS waivered inpatient HaH program (Program 1) and a non-CMS waivered early supported discharge HaH program (Program 2).

**Methods:** We conducted a retrospective descriptive study of adults who received HaH care in Programs 1 (January 2022 to July 2024; from 10 hospitals) and 2 (January 2020 to November 2023; from 5 hospitals), within the 3rd largest health system in the U.S. We extracted data from two internal databases comprising patient and clinical data from each program.

**Results:** We analyzed 20,279 patient encounters, including 11,645 encounters from Program 1 and 8,634 encounters from Program 2. In Program 1, we observed patient likelihood to recommend HaH with 86.5% (SD=5.8%). We found lower than predicted 30-day readmission (observed: expected ratio=0.86, SD=0.21). Additionally, 4.8% required care escalation to bricks-and-mortar facility and mortality within 30 days was (0.03%, SD=0.001). In Program 2, patients had a mean index hospital length of stay of 4.9 days (SD=4.6) and 16.7% were admitted to the ICU during index hospitalization. Within 30 days, 27.0% returned to the ED, 20.1% were readmitted to the hospital, and 1.2% died. The proportion of acute carefree days to day 30 was 95.6%.

**Conclusions:** Our programs were tailored to address patient needs across the continuum of care, offering hospitals two implementation options to best match their specific needs and available resources. Based on learnings from these two programs, our health system has launched an outpatient flex unit to advance patient-centered care.

**Keywords:** H@H effectiveness, Acute care alternatives, Early Supported Discharge, Inpatient H@H

# HOSPITAL AT HOME THERAPY COMPETENCIES: MARRYING HOME CARE AND ACUTE CARE WORKFLOWS CREATING BEST PRACTICE

#### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** As Hospital at Home programs continue to evolve globally, there is a pressing need for standardization in therapy delivery. Some programs heavily rely on virtual care, while others prioritize in-person visits. This abstract aims to address the competencies needed for the unique skill set necessary to provide acute inpatient levels of care in a home setting.

**Methods:** Subject matter experts (SME) with the skill set of acute care hospital-trained therapists with extensive experience in the home care setting became the leaders in setting up a therapy program for hospitals at home. Outcome measures used to screen and stratify patients will also be presented. The process of competencies, phone screening, in-person visits, and growth among ten sites will be described.

**Results:** The process of naming SMEs and ensuring that home care and acute leaders contributed to the development of necessary competencies has resulted in a comprehensive framework, to include videos, documentation, psychomotor skills, and communication threads, resulting in 787 visits since 2021. The coordination of care across ten sites and the specific roles of a therapy coordinator further enhance the quality of care. Lastly, two case studies will be presented, highlighting the safety and improved quality of care that these competencies have facilitated.

**Conclusions:** Therapists (PT, OT, SLP) are critical interprofessional team members and are integral to Hospital at Home programs. By considering the components of competences and a therapy coordinator, participants can further enhance the execution of a Hospital at Home therapy program, ensuring that the care provided is of the highest quality.

Keywords: Therapy, Competencies, Hospital at Home, Outcome Measures

#### HOSPITAL AT HOME CANCER THERAPY

#### **CLINICAL PRACTICE AND ADVANCES**

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#### **Background and Aims:**

With 15% annual growth in demand for acute cancer care, Alfred Health's Hospital at Home aimed to meet this demand through the provision of person-centred, homebased cancer therapies.

**Methods:** We mapped the demand for cancer treatments with therapies suitable for homebased care. We upskilled 29 EFT Home nursing workforce through a structured anti-cancer drug administration course involving 3 days of theoretical education, 3 initial supervised treatments, completion of log book of 20 treatments for full accreditation, and biannual reassessment. We developed streamlined workflows and referral pathways between cancer services and Hospital at Home. We implemented a cold-chain process for storage and handling of cancer drugs. We proactively recruited patients keen to engage in home-based cancer care. We then evaluated patient experience and service utility.

**Results:** The homebased model delivers 14 different cancer therapies (subcutaneous and intravenous) and provides supportive therapies like granulocyte colony-stimulating factor, neutropenic monitoring, and management of post chemotherapy symptoms. The service provides on average 108 homebased cancer treatments per month. Patients report a high level of satisfaction at 95%. The nursing workforce have become highly competent cancer therapists in addition to their substantive skill set.

**Conclusions:** Demand for cancer care is set to increase and stretch hospital resources. Our Hospital at Home cancer stream is a patient centred response to growing demand for innovative cancer therapies that are safe and cost effective to deliver in the home setting. As new cancer treatments and IT monitoring systems evolve, the service will grow and develop research focusing on home-based cancer treatment.

Keywords: Cancer therapy, Supportive therapy, Patient centred care, Cold chain

## INTRAVENOUS THERAPY IN HOSPITAL AT HOME (HAH) : DECISION-SUPPORT CHART FOR DRUG COMPATIBILITY AND STABILITY IN PORTABLE INFUSION PUMP.

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** In our hospital at home (HAH), the use of portable infusers is preferred in palliative care. These patients frequently require continuous and concomitant infusion of several molecules. The aim of this project was to develop a decision-support chart for caregivers to ensure the compatibility and stability of binary mixtures in these devices.

**Methods:** An assessment of professional practices was conducted to target the most commonly used drugs for palliative care patients in our HAH. A literature review was carried out to identify compatibility and stability studies. The inclusion criterias were the container used (elastomeric infusion pump), the diluting solvent (sodium chloride 0.9%), the storage temperature (≥ 25 °C) and the stability of the mixture (≥ 24h).

**Results:** The evaluation covered 17 drugs (alizapride, chlorpromazine, clonazepam, furosemide, haloperidol, hydroxyzine, ketamine, metoclopramide, midazolam, morphine, ondansetron, pantoprazole, phloroglucinol, sandostatin, butylscopolamine, scopolamine hydrobromide, trimebutine), 136 binary mixtures. Following analysis of the literature, 7 studies met our inclusion criteria. Only 17 mixtures (12.5%) were compatible and stable in elastomeric infusion pump for at least 24h, 13 of which demonstrated physico-chemical compatibility assessed by an analytical method of concentration measurement, and 4 physical compatibility assessed by visual inspection and PH measurement.

**Conclusions:** Our decision-support chart makes it possible to limit the number of devices used for compatible molecules, thereby improving patient comfort and limiting costs. Despite the increase in home palliative care, there is limited evidence of compatibility of binary mixtures in elastomeric infusion pump. More studies are necessary to validate drugs admixtures in real life home administration conditions.

**Keywords:** Hospital at Home, elastomeric infusion pump, palliative care, drug admixture

# EXPERIENCE OF HOME HOSPITALIZATION IN ONCO-HAEMATOLOGICAL PEDIATRIC PATIENTS

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Home hospitalization is a good alternative to conventional hospitalization in oncological patients. Aim: To analyse the characteristics of the admissions in a home hospitalization pathologies, treatments and most frequent medical complications.

**Methods:** Retrospective descriptive analysis of patients included on the program from October 2021 to June 2024.

**Results:** 166 patients were included, residing in an area within the Barcelona Metropolitan Area, and an average of 8 km distance from the hospital. The average age at the time of admission is 9.5 years, with an average stay of 4 days at the hospital. 48.8% come from Hospitalization, 49.5% from Day hospital or outpatient department and 1.2% from Emergency Room. The most common pathologies are: lymphoblastic leukemia (46.2%) and Neuroblastoma (22.6%). The most common venous access devices are central lines (94.2%).

The most common admission cases are hydration post chemotherapy (20.4%), bacterial infection process (20.7%), kidney failure (8.4%) and early hospital discharge of lymphoblastic leukemia's (7.9%). Only one safety incident recorded.

23 cases of problems in venous access (5.5%) were recorded, (26.1% because of catheter obstruction, 13% due to problems with the infusion pump and 30.4% due to problems with the PAC needle.

The readmission rate was 10.3%, mainly motivated by fever (53.5%).

**Conclusions:** The oncological hospitalization service, day hospital area and outpatient department are the services that refer a higher number of patients to home hospitalization. The readmission rate is low and the vast majority of these are caused by expected complications.

Keywords: Pediatric patients, oncological patients, home hospitalization

# STUDY OF TYPES OF INTRAVENOUS HYDRATION IN PAEDIATRIC PATIENTS WITH ONCOLOGIC DISEASE HOSPITALIZED AT HOME.

#### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Paediatric patients with oncologic disease need intravenous hydration frequently as support of chemotherapy, antimicrobials or renal failure. Adapting the hydration to enhance the admission of patients at home-hospitalization reduces time of patients in hospital, which is beneficial for their quality of life. Our aim is to describe the different types of intravenous hydration given in a home-hospitalization program at a third level hospital.

**Methods:** Unicentric, descriptive and retrospective study. Includes paediatric patients with oncologic disease admitted at home to receive intravenous hydration, between January 2022 and August 2024. Number of treatments performed was evaluated, specifying the type of intravenous infusion. In addition, different clinical outcomes were collected.

**Results:** Data from 191 home episodes were obtained, corresponding to 99 patients. The median age at admission was 9.9 years old; the median time of admission was 3 days. In 106 cases, it was hyperhydration as support after receiving chemotherapy, mainly alkylating agents. In 46 cases, hydration was needed as treatment of renal failure, in 5 cases as treatment of haemorrhagic cystitis and in 14 cases due to vomiting/other. In 20 events, patients received hydration as maintenance for receiving antimicrobials.

**Conclusions:** Adapting cancer treatments to enable patients to stay at home is possible. In this study, we demonstrate that patients receiving intravenous hydration can stay at home safely. In addition, home admissions can reduce the length of hospital stay of these patients, as well as improve the tolerability of treatments. As reflected in previous literature, this enhances patients' quality of life and reduces time toxicity.

Keywords: Hydration, Home-hospitalization, Oncologic disease, Pediatric patients

### LIVER ABSCESS IN ADULTS: EXPERIENCE IN MANAGEMENT BY A HAH UNIT

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Background: Liver abscess (LA) is currently usually associated hepatobiliary pathology and reports show its increasing incidence, particularly among older people. Diabetes mellitus and non-K.pneumoniae infections appear as factors with worse prognosis. Aim: To assess the experience in the management of patients with LA over 15 years by a HaH Unit.

**Methods:** Retrospective review of patients attended by the HAH Unit from Hospital Universitari de Bellvitge with a diagnosis of LA between 2008 and 2023.

**Results:** 46 patients presented LA, 28 men (60,8%) and 18 women (39,2%). Median age: 64,3y (71,05y in  $\geq$  65y). Inpatient average stay: 10.5 days (R: 7 – 28d). HaH average stay: 16,7d (R: 7-34d). Cases with K.pneumoniae: 11,6d. Microbiology: E.coli 19 (41,3%); Enterococcus, 17 (36,9%); K.pneumoniae, 14 (30,4%); Other, 18 (39,1%); Unknown, 6 (13%). Antibiotics: Ceftriaxone 23 (54,7%); Ertapenem, 11 (26,2%); Teicoplanine, 11 (11,9%); Metronidazol, 6 /11,9%); other, 13 (33,8%). Underlying pathology: Liver cystic disease, 13 (28,2%); pancreatic carcinoma, 10 (21,7%); acute cholecystitis, 7 (15,2%); Other, 16 (34,7%); Diabetes mellitus, 15 (32,6%); Pig-tail drainage, 14 (30,4%). Evolution: 42 patients were discharged and 4 were readmitted to hospital..

**Conclusions:** 1.In our experience, patients were mainly older (median age about 65 years old) 2.LA was commonly associated with underlying hepatobiliar pathology. 3.E.coli was the microorganism mainly isolated 4.HaH Unit handled 61,4% of the total time of each episode 5. 91,3% of patients were succesfully discharged and 8,7% readmitted to hospital due to impaired course, (3 malignancy; 1 hepatic encephalopathy)

Keywords: Liver abscess, OPAT
# SAFE ADMINISTRATION OF BLOOD TRANSFUSIONS IN HOSPITAL-AT-HOME AFTER HAEMATOLOGICAL STEM CELL TRANSPLANTATION: A REVIEW OF SAFETY PROTOCOLS AND OUTCOMES

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** The Department of Haematology at Oslo University Hospital has operated a Hospital-at-Home (HaH) programme since 2019, providing posttransplant care to stem cell transplant patients during periods of severe immunosuppression. By applying specific inclusion criteria, the program ensures patient safety while facilitating care in home settings or hospital-arranged apartments. A key innovation is the administration of prophylactic blood and platelet transfusions at home.Prior to programme initiation, comprehensive preparations were made, including risk assessments, agreements with ambulance services for rapid hospital transfer if needed, and the planning of emergency medication kits for HaH nurses.

**Methods:** Risk assessments confirmed that transfusion reactions are rare in the hospital setting. Detailed standard operating procedures were established and HaH nurses were equipped with necessary medications such as EpiPens, antihistamines, and hydrocortisone. In 2024, patient records were reviewed to identify home tranfusions, assess adverse events, and verify whether outcomes aligned with expectations.

**Results:** In 2023, 43 patients participated in HaH, of which 31 received transfusions at home, totaling 69 platelet transfusions and 17 red blood cell transfusions. No adverse reactions occurred with red blood cell transfusions. One patient experienced two mild reactions during platelet transfusions, successfully managed on site by the HaH nurse with standard interventions. Another patient reported mild discomfort post-transfusion requiring no intervention.

**Conclusions:** These outcomes are consistent with what we have observed since 2019, underscoring the program's reliability and safety over time. With robust safety protocols and skilled clinical teams, home administration of blood and platelets for transplant patients is both safe and feasible.

**Keywords:** Stem cell transplantation, Blood and platelet transfusion, Home transfusion, heamatology, immunosuppression

# PROGRESS & DEVELOPMENT OF AN ACUTE HOSPITAL AT HOME MODEL – STAFF PERSPECTIVES

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** 'Emergency Point of Care Testing and Treatment in Care Homes and at Home' (EPICENTRE) is a Hospital at Home (HaH) service, staffed by nurses, doctors and Advanced Care Practitioners, medically managing non-diagnosis-specific acute health needs at home, in adults who would otherwise be hospitalised. They use point-of-care blood tests and scanning, alongside other assessments, and deliver interventions including medications, catheterisation, equipment provision, and advice, including future care planning discussions.

**Methods:** Within a mixed methods study to evaluate EPICENTRE, including progress thus far and suggested improvements, semi-structured interviews were conducted with staff, exploring experiences and perceptions of working in EPICENTRE and their suggestions for improvements.

**Results:** Interviews were conducted with 12 participants and four key themes were identified: Service description, Location of Care (LoC) decision-making, Family and Other teams, and Perceptions, Challenges & Suggestions. Two key findings surrounded Decisions and Perceptions. While considering various factors and risks, staff prioritised patient LoC preferences (often for home), and thus cared for more acutely unwell patients at home than potentially initially anticipated. Participants were generally positive about both EPICENTRE and HaH more broadly, highlighting multiple benefits, but also raised challenges they experience, and provided multiple suggestions for improvements, which may also be applicable to other HaH services.

**Conclusions:** Staff provided insight into the day-to-day running of EPICENTRE, their patients, and the teams they work with. While generally positive about HaH, and the teams they work alongside, some challenges were raised, and staff made multiple suggestions for improving delivery of EPICENTRE and HaH care.

Keywords: Staff, Qualitative, Service development, Service description

# BARRIERS TO RECRUITMENT IN THE HOSPITAL AT HOME PROGRAM: A MIXED METHOD STUDY

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** The Hospital at Home (HaH) program offers a cost-effective, patient-centered alternative to inpatient care, delivering acute medical treatment in a home setting. Despite its potential, HaH programs often face recruitment challenges, limiting their scale and impact. This study explores barriers to patient recruitment in an HaH program at a tertiary hospital in Singapore, providing valuable insights to guide improvements.

**Methods:** A retrospective analysis was conducted on 235 patients referred to the HaH program between April and August 2024. A mixed-method approach was used, combining thematic analysis with descriptive statistics to identify key barriers encountered during the recruitment process.

**Results:** Recruitment barriers occurred in two key phases: pre-consent screening and recruitment counseling. The most significant barriers were clinical unsuitability (41.7%), patient or caregiver preferences (30.6%), and logistical constraints (13.6%). Additional barriers included caregiving challenges (10.2%) and financial concerns (3.8%). Of the 235 patients, 36 (15.3%) were deemed clinically unsuitable, while 56 (23.8%) were considered better suited for discharge or other community services, such as Outpatient Parenteral Antibiotic Therapy (OPAT) or transitional care services. Preferences from patients and caregivers often stemmed from concerns about privacy, ease of care, and a lack of confidence in the HaH model.

**Conclusions:** The findings highlight critical recruitment barriers that limit the expansion of HaH programs. Addressing these challenges will require targeted interventions, such as refining screening protocols, improving logistical and financial support, and enhancing caregiver assistance. Future research should focus on developing strategies to overcome these obstacles and improve HaH program enrollment.

Keywords: Hospital at Home, recruitment, Barriers

# HOSPITAL AT HOME INITIATED FROM THE EMERGENCY DEPARTMENT: IMPLEMENTING A NEW MODEL IN TAIWAN

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** The emergency department (ED) is a critical point for transitioning older adults to cost-effective, patient-centered care. Hospital at Home (HaH) has not been implemented in Taiwan, particularly as an extension of ED services. To address this, we developed an innovative HaH protocol initiated from the ED at Chi Mei Medical Center.

**Methods:** Starting in March 2023, a multidisciplinary team of geriatric-certified ED physicians, a transitional care-trained nurse, a home health care (HHC) case manager, and a medical administrator established an HHC protocol for ED-discharged patients. In August 2024, the program expanded to include HaH, allowing intravenous antibiotic therapy at home for conditions such as pneumonia, urinary tract infection (UTI), and soft tissue infections.

**Results:** The HHC protocol achieved monthly referrals of 20 ED patients. Between August and December 2024, 40 patients joined the HaH program, with a treatment success rate of 97.5% (39/40). Diagnoses included pneumonia (44%), UTI (33%), and soft tissue infections (22%). Patient and family satisfaction was 100%.

**Conclusions:** This is Taiwan's first HaH protocol initiated from the ED, demonstrating feasibility and high success rates. This model provides a replicable framework for scaling HaH programs in Taiwan and globally to manage older adults in acute care settings effectively.

Keywords: emergency department, Hospital at Home, Taiwan

# IMPLEMENTATION DIFFERENCES IN TAIWAN'S HOSPITAL AT HOME PROGRAM: A COMPARISON OF TWO HEALTHCARE INSTITUTIONS IN TAIPEI

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital at Home (HAH) was introduced in Taiwan in July 2024. Patients are categorized into three models: Model A (home medical care patients), Model B (elder care facility residents), and Model C (emergency department [ED] patients opting for home care). Nationwide, 498 cases were enrolled from July to September, distributed as 164 (A), 163 (B), and 171 (C) cases. This study aims to compare the enrollment patterns of HAH across hospitals of different levels.

**Methods:** This study analyzed the differences in HAH implementation between Taipei City Hospital (TCH), a regional hospital, and Wanfang Hospital (WFH), a medical center.

**Results:** TCH primarily enrolled patients in Model A(4 cases), Model B(16 cases), and Model C(2 cases). Strong partnerships with elder care facilities enabled TCH to excel in Model B through regular physician visits. However, TCH's direct ED-to-ward admission process led to a preference for in-hospital care over HAH. WFH predominantly enrolled patients in Model C(25 cases) to address ED overcrowding and high bed occupancy, where ED physicians recommended HAH for stable patients. Additionally, WFH enrolled patients in Model A(2 cases) and Model B(3 cases).

**Conclusions:** Institutional characteristics significantly influence HAH enrollment patterns:TCH excelled in Model B due to strong collaborations with elder care facilities but had limited participation in Model C. WFH effectively utilized Model C to manage ED overflow while also enrolling fewer patients in Models A and B. These findings emphasize the need to tailor HAH strategies to align with institutional strengths and challenges, ensuring optimal implementation across diverse healthcare settings.

Keywords: Hospital at Home, regional hospital, hah, medical center

# OUTCOMES AND PATIENT SATISFACTION IN A PILOT PROGRAM FOR HOSPITAL AT HOME IN A TERTIARY MEDICAL CENTER IN TAIWAN

# **CLINICAL PRACTICE AND ADVANCES**

<u>Chien-Cheng Huang</u> Chi Mei Medical Center, Tainan, Taiwan

**Background and Aims:** Hospital at Home (HaH) provides an alternative to traditional inpatient care and has demonstrated improved outcomes and patient satisfaction in previous studies. Despite its success globally, HaH had not been implemented in Taiwan until our pilot program at a tertiary medical center. This study evaluates the program's outcomes and patient satisfaction.

**Methods:** Data were retrospectively collected for 60 HaH patients treated between August 1, 2024, and December 31, 2024. Clinical characteristics, diagnoses, outcomes, and satisfaction metrics were analyzed.

**Results:** Of the 60 patients, 70% (42/60) were women. Age distribution showed 15.3% were over 90 years, 37.3% were 80–90 years, 30.5% were 70–80 years, and 11.9% were 60–70 years old. Most patients (75%) were referred from the emergency department (ED), while 25% were ongoing home healthcare patients. The primary diagnoses included urinary tract infections (45%), pneumonia (37%), and soft tissue infections (18%). During HaH care, 2% of patients revisited the ED within 3 days, and 4% revisited within 7 days. Rehospitalization rates were 4.1% within 3 days and 12.2% within 14 days of HaH treatment completion. Patient satisfaction was high, with 100% satisfaction for the HaH team, 86.7% for IoT-based vital sign monitoring, and 93.3% willingness to recommend HaH to others.

**Conclusions:** The pilot HaH program demonstrated favorable outcomes and high patient satisfaction, highlighting its potential as an effective alternative to inpatient care in Taiwan. Further research with a larger sample size and a comparison cohort is needed to better assess its benefits and limitations.

**Keywords:** Hospital at Home, emergency department, Taiwan, Patient satisfaction, pilot study

# NAVIGATING THE COMPLEX DECISION-MAKING PROCESS FOR PATIENT ENROLLMENT IN HOSPITAL AT HOME

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital at home can help alleviate hospital bed shortages and improve patient outcomes. However, implementation faces challenges, particularly in patient enrollment. This study examines hospital staff experiences with the decision-making process for patient enrollment to gain a deeper understanding of the influencing factors.

**Methods:** 22 semi-structured individual interviews were conducted with hospital staff (11 nurses, 9 physicians, and 2 healthcare professionals) from January to May 2022. The data were analyzed using reflexive thematic analysis.

**Results:** We identified four key themes related to hospital staff experiences with the patient enrollment decision-making process in hospital at home: 1. Beneficial for the patients; an important motivating factor 2. Patient eligibility; prioritizing safety 3. Contextual factors within hospital ward units; opportunities and limitations 4. Collaboration with municipalities; crucial but challenging

**Conclusions:** Hospital staff described the decision-making process for patient enrolment in hospital at home services as complex and dynamic. The study examines factors influencing this process, highlighting the need for support in navigating these challenges. High-quality decision-making emerged as crucial for achieving positive outcomes and ensuring effective care. Additionally, the study calls for further exploration of ethical considerations, such as balancing patient safety with equitable access to person-centered care in this setting.

Keyword: clinical decision-making and hospital staff

# CHALLENGES IN THE MANAGEMENT OF PATIENTS RECEIVING BLINATUMOMAB IN HOSPITAL AT HOME (HAH) ORGANIZATION

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Sitex, a private Hospital at Home organization (HaH) located in the cantons of Geneva and Vaud in Switzerland, collaborates with the hematology department of the Geneva University Hospitals (HUG) to monitor patients treated with intravenous (IV) Blinatumomab. This treatment, initially administered in a hospital setting, is primarily intended for patients with CD19-positive B-cell acute lymphoblastic leukemia (ALL). It is currently indicated in cases of relapsed or refractory disease or in patients with positive minimal residual disease (MRD) prior to allogeneic stem cell transplantation (allo-SCT). The objective of this study is to demonstrate that HaH possesses the technical and clinical expertise necessary to provide outpatient care for these patients. The critical roles of the clinical pharmacist, nursing expertise, and collaboration with the hematologist are essential for successfully managing this treatment at home. We have also evaluated the impact of HaH on the quality of life of patients receiving this treatment.

**Methods:** This exploratory study draws on feedback from healthcare professionals and patients treated with Blinatumomab at home. Questionnaires were used, and two patients in Geneva were monitored in 2023-2024.

**Results:** The expected outcome is to validate HaH professionals' expertise in caring for patients receiving innovative treatments like bispecific antibodies at home.

**Conclusions:** Managing patients on Blinatumomab requires effective coordination between inpatient and outpatient teams. Integrating HaH streamlines this transition, addresses patient needs, and improves quality of life while showcasing strong technical and clinical skills. This approach enhances continuity of care and optimizes patient support throughout treatment.

**Keywords:** acute lymphoblastic leukemia (ALL), Blinatumomab, bispecific antibodies, quality of life, interdisciplinary collaboration

# INFLUENZER – VIRTUAL HOSPITAL AT HOME FOR ACUTELY ILL PATIENTS: A RANDOMIZED CONTROLLED TRIAL

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospitals and healthcare services worldwide face pressure from staff shortages and rising demand due to longer life expectancies, and innovative approaches to delivering hospital-level care are imperative. Developing and implementing Hospital-at-Home (HaH) models may be a viable solution, by providing in-hospital quality care with fewer in-hospital complications like infections, delirium, or falls. In the Influenzer study we have developed a telemedicine-supported virtual HaH (vHaH) model for safe admissions of acutely ill patients and are now evaluating its mental and physical effects in a randomized control trial.

**Methods:** The study period runs from 1<sup>st</sup> of June 2023 until the target of 110 enrolled participants is reached. Patients are randomized to either vHaH or continued conventional hospitalization in a ratio of 1:1. All participants will wear an accelerometer and be asked to answer questionnaires. During vHaH the patient will transfer data on vitals and self-reported symptoms to the hospital where nursing staff will monitor the patient's condition 24/7/365. Daily ward rounds with a medical doctor are conducted via video, and nursing staff may assist with different tasks in the patient's home.

**Results:** So far, 77 of 110 patients have been included. 64 have worn an accelerometer for more than 24 hours after inclusion. The baseline questionnaire, endline questionnaire, and follow-up questionnaire response rates are 100%, 75%, and 76% respectively.

**Conclusions:** We expect to finish inclusion before the end of January 2025 and to be able to present preliminary results on differences in physical activity and mental wellbeing by March 2025.

Keywords: telemedicine, Hospital at Home, Early Discharge

# FEASIBILITY AND CHALLENGES OF IMPLEMENTING A HOSPITAL AT HOME (HAH) MODEL FOR INTRAVENOUS ANTIBIOTIC THERAPY IN HOMEBOUND PATIENTS: A PRELIMINARY EXPERIENCE FROM TAIPEI CITY HOSPITAL

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** The Hospital at Home (HAH) model was implemented in Taiwan on July 1, 2023, for homebound patients requiring intravenous antibiotics for conditions like UTIs, pneumonia, or soft tissue infections. This model presents opportunities and challenges, including concerns about medical disputes, staffing shortages, and logistical difficulties. Since its implementation, Taipei City Hospital, a public teaching hospital, has worked to address these issues.

**Methods:** From July to September 2023, Taipei City Hospital enrolled 11 homebound patients for HAH, all with UTIs requiring IV antibiotics. The cohort included five males (75.8±11.8) and six females (77.8±11.8), with nine undergoing urine cultures that revealed E. coli infections. Three patients had drug-resistant strains treated with Ertapenem (QD), and others received Amikacin. Patients received seven-day antibiotic courses with daily nurse visits. Challenges included IV access in homebound patients and weekend staffing.

**Results:** Nine of the 11 patients completed the treatment at home, showing the effectiveness of the HAH model. Two patients required hospitalization due to worsening conditions. Caregivers expressed high satisfaction with HAH's convenience and reduced transportation burden, especially those in apartments without elevators. Patients also benefited from cost savings and remarkably reduced caregiver expenses. The patient's copayment for the seven-day treatment is approximately 50 USD. The HAH model provided hospital-level care at home with fewer copayments.

**Conclusions:** Preliminary results show the HAH model is feasible and beneficial for patient comfort and cost savings. However, staffing and IV access challenges remain. Despite these, HAH is viewed positively, with potential for broader adoption across Taipei City, Taiwan.

**Keywords:** Hospital at Home, Intravenous Antibiotic Therapy, Homebound Patients, Healthcare Delivery, Taiwan Experiences

# ENTERAL NUTRITION IN CHILDREN A HOSPITAL AT HOME EXPERIENCE: FEASIBILITY, INDICATIONS, SAFETY.

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** There are little data on children receiving Home Enteral Nutrition (HEN) although it has been practiced for years in different countries. Fondation Santé Service is a hospital at home structure which takes care of adults and children in Paris area. Home enteral nutrition is primarily for patients whose reduced oral intake doesn't maintain proper nutrition or hydration. Hospital at home allows less disruption in daily routines for children.

**Methods:** A retrospective study included children supported by hospital at home Fondation Santé Service with enteral feeding from 2021 to 2023.

**Results:** Two hundred and Ninety-five children receiving HEN were included from the 1st of January 2021 to the 31st December 2023 i.e. 26,247 days of home hospitalization.Two third of them were less than one year old. They were taken care for various pathologies: hemopathies and solid tumors (27%), neurological impairment (17%), otorhinolaryngogical abnormalities (11%) (among them 73% Pierre Robin syndrome), cardiopathies (9%). Around 9% of the children were premature. Seven per cent benefited of a home hospitalization for palliative care. There were 29 deaths linked to their pathology. Thirty- four children had to be urgently hospitalized during the period considered (40 % due to digestive causes, 26% due to respiratory causes, only 1 patient due to impossibility to replace nasogastric tube at home).

**Conclusions:** Enteral feeding at home in children can be done safely with hospital at home for patients as young as less than one year old, for various pathologies including severe ones such as oncology and palliative care.

Keywords: Hospital at Home, Enteral nutrition, Enteral feeding, Children

# FEASIBILITY AND SAFETY OF OUTPATIENT VYXEOS (CPX-351) CHEMOTHERAPY AND AT-HOME (AH) MANAGEMENT IN ACUTE MYELOID LEUKEMIA (AML)

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Vyxeos (CPX-351), a liposomal formulation of cytarabine and daunorubicin, was approved by the EMA in 2018 for treatment of AML with myelodysplasia-related changes in patients over 60 years. It offers an improved safety profile compared to conventional chemotherapy, supporting outpatient administration during consolidation phases and enabling AH management of treatment-induced aplasia.

**Methods:** The program involves outpatient chemotherapy and AH follow-up, supported by a 24-hour Home Care Unit (HCU) for managing adverse events. Patients who met the inclusion criteria (Image 1) were enrolled in the AH program after receiving comprehensive pre-enrollment education and assessment, along with their caregivers. Blood cultures and rectal swabs were collected for infection surveillance. Prophylactic measures included antibiotics and antifungals during aplasia, with AH platelet transfusion support. Neutropenic fever was managed with empiric IV antibiotics, with self-administration encouraged.

# Image 1: Inclusion criteria HCU

- 1. Stable patients without active toxicities grade ≥2
- 2. Absence of neurological or psychiatric disorder that would contraindicate outpatient treatment.
- 3. ECOG performance status ≤2.
- 4. 24-hour trained caregiver availability.
- 5. Travel time from home to the hospital <60 minutes.
- 6. Availability to attend care center daily, if required.
- 7. Proper venous access (central venous catheter (CVC), peripherally inserted central catheter (PICC)).
- 8. Patient and caregiver voluntary acceptance of home-base follow-up.

**Results:** Between 2022 to 2024, 5 patients, accounting for 8 treatment episodes (Table 1), were enrolled. The median follow-up period under HCU was 22 days (8-28). Neutropenia (<0.5x10<sup>9</sup>/L) lasted a median of 9 days (0-12), and a self-sustained platelet count of 20x10<sup>6</sup>/L was achieved by day +23 (0-28). The most common adverse event was cytarabine-related cutaneous toxicity, affecting 50% of episodes. Fever occurred in 38% of episodes, with microbial identification in 67% of cases. One patient (13%) required readmission for persistent fever. A median of 4 (0-5) platelet and 3 (2-4) RBC transfusions were administered per patient.

Characteristics	Patients (N=5)
Age (range)	71 (64-71)
Gender (%)	
Female	1 (20)
ECOG (%)	
0-1	5(100)
ELN22 Risk (%)	
Favorable/Intermediate	0 (0)
Adverse	5 (100)
Cycle phases (%)	
Consolidation 1	5 (100)
Consolidation 2	3 (60)
RS Colonization (%)	1 (20)
Klebsiella ESBL	1 (20)
Self-administration of prophylaxis (%)	3 (60)

# Table 1: Baseline characteristics of patients:

ECOG: Eastern Conference Oncology Group, ELN22: European Leukemia Net 2022, RS: Rectal Swab, ESBL: Extended-Spectrum Beta-Lactamase

# Table 2: Adverse events during follow-up:

Adverse Events	Episodes (N=8)
Any adverse event (%)	5 (63)
Cytarabine toxicity (%)	
Rash	4 (50)
Fever	2 (25)
Diarrhea	2 (25)
Fever (%)	3 (38)
Microbial ID <sup>1</sup>	2 (67)
Duration of aplasia (range)	
NT < 0,5x10 <sup>9</sup>	9 (0-12)
PLT < 20x10 <sup>9</sup>	11 (0-13)
Hospital readmission (%)	1 (13)

NT: neutrophils, PLT: platelets

# <sup>1</sup> Staphylococcus epidermidis, Campylobacter jejuni

**Conclusions:** Outpatient administration of CPX-351 is feasible and safe, allowing patients to remain outside the hospital during treatment and optimizing the use of healthcare resources.

**Keywords:** Acute Myeloid Leukemia, At-home, self-administration, Chemotherapy, Safety

# MEDICAL PROCEDURES AT HOME: EXPERIENCE FROM AN ACUTE HOSPITAL AT HOME TEAM

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Oxford University Hospitals Acute Hospital at Home team provides an acute general medical admission avoidance service with the capabilities to perform procedures that would typically be performed on a medical assessment unit or same day emergency care unit.

**Methods:** A retrospective analysis was performed of the procedures underaten in the home / care fascility setting over a three month period between July and September 2024. All patients were frail and/or bedbound and would otherwise have stuggled to attend a physical hospital without ambulance / hospital arranged transport.

**Results:** Procedures were performed by a mixture of Medical SpR (n = 2) and ANPs (n=1) Interventions in the home included ascitic tap (n = 2), paracentesis (n=2). Joint aspiration – knee (n = 1) and Venesection (n=2). There were no immediate complications.

**Conclusions:** An emerging acute hospital at home service can perform a viariety of acute medical procedures in the community without the need for convayance to a physical hospital setting.

Keywords: Procedures, Paracentesis, Joint Aspiration, Venesection

# INCREASING THE VOLUME AND ACUITY OF HOSPITAL AT HOME REFERRALS FROM THE EMERGENCY DEPARTMENT

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** H@H programs have been shown to provide equivalent or better outcomes compared to traditional inpatient care, with benefits including lower costs, reduced risk of hospital-acquired infections, and higher patient satisfaction. Despite these advantages, referral rates from the Emergency Department (ED) to our H@H team remained low due to various barriers, such as lack of awareness, perceived risks, and logistical barriers referring into the service, especially out of hours. This project aims to increase the referral rate from the ED to H@H, thereby providing an alternative to admission to a physical hospital.

**Methods:** Quality Improvement Project (QIP) methodology was implemented which included the following steps: 1) Baseline Data Collection 2) Stakeholder Engagement 3) Education and Training 4) Process Improvement, 5) Communication and Feedback 6) Continuous Monitoring and Adjustments. Date of implementation: 4<sup>th</sup> November 2024, outcome data from the first 6 weeks of the trial are presented.

**Results:** Referrals increased after the education intervention for daytime hours (7.1 referrals per week vs 2.5 referrals /week) and overnight (5 referrals/week vs 0 referrals/week). There were no patient safety incidents reported with the new pathway. 7 day re-admission rate to physical hospital was low (2/74). The most common conditions referred were: decompensated frailty, heart failure and infection syndromes (cellulitis, pneumonia and bacteraemia).

**Conclusions:** By utilising QIP methodology we were able to streamline the referral process into hospital at home services and this allowed for increased utilization from the local emergency departments.

Keywords: pathway, emergency department, QIP

# DELIVERING ANTIMICROBIAL STEWARDSHIP IN HOSPITAL AT HOME – MEETING WORLD HEALTH ORGANIZATION STANDARDS

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Antimicrobial stewardship is a global health priority to protect the current stock of antibiotics. The World Health Organisation (WHO) has produced categories of antibiotics - Access, Watch, Restrict – with the aim of minimising broad spectrum use. Hospital At Home (H@H) provides unique challenges in delivering parenteral antimicrobial therapy as logistical concerns create pressure towards once daily dosing regimens – this often leads to the use of agents in the WHO 'watch' category e.g. ceftriaxone and ertapenem. We describe the development of a local antimicrobial policy to meet the WHO requirements for stewardship whilst ensuring feasible parenteral antibiotic regimens.

**Methods:** A working group of H@H, Infectious Disease physicians and specialist pharmacists was formed. An innovative protocol was developed which covered the main infection presentations with minimal 'watch' category antibiotic use, low Clostridioides difficile risk and maximal twice daily dosing regimens. The committee focused on themes of point-of-care diagnostics, an oral first approach and early IV to oral switching. Innovative strategies included a) use of probenecid combined with betalactams b) elastomeric pump devices c) increased ultilisation of aminoglycosides or oral co-trimoxazole.

**Results:** The provisional protocol was endorsed by the local antimicrobial stewardship department and is being rolled out in 2025. The protocol allows for coverage of all common pathogens and infection syndromes without the use of ceftriaxone or ertapenem.

**Conclusions:** The H@H setting creates novel challenges for treating infection. The developed protocol highlights some innovative strategies that can be utilised to address antimicrobial stewardship concerns, minimise C diff risk without creating undue logistical pressures

Keywords: Antimicrobial Stewardship, probenecid, Guideline, infection

# COMPARISON OF OUTCOMES IN THE MANAGEMENT OF INFECTIOUS ENDOCARDITIS IN HOSPITAL AT HOME BASED ON OPAT-GAMES CRITERIA

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** This study compares the clinical outcomes of patients with infectious endocarditis (IE) treated in Hospital at Home (HaH) based on compliance with outpatient treatment criteria of the Support Group for the Management of Endocarditis in Spain (OPAT-GAMES), evaluating its applicability and effectiveness.

**Methods:** A retrospective analysis was conducted on patients with IE treated in a HaH unit. Patients were divided into those meeting OPAT-GAMES criteria (n=27) and those who did not (n=16). Clinical evolution, complications, readmissions, and mortality were compared between groups.

**Results:** A total of 43 patients were included, with a mean age of 63 years. 51.2% had a history of severe valvular disease, Native valve infections accounted for 65.1% of cases, with the aortic and mitral valves most frequently affected (39.5% and 41.9%, respectively). The most frequently isolated microorganisms were Staphylococcus and Streptococcus. The median length of HaH stay was 25 days, with a longer stay in the OPAT-GAMES group (27 vs. 14 days; p=0.052). Complications included heart failure (28.6%), cerebral embolism (11.6%), and sepsis (9.5%), with no significant differences between groups. Readmission occurred in 27.9% of cases, primarily due to poor IE progression (20.9%). Overall mortality was 9.3%, with no significant differences between

Evolution and development	of complication during TOTAL N= 43	Meet OPAT- GAMES criteria	base don OPAT-GAMES Don't meet OPAT-GAMES criteria N=16	p-va
	No. (%)	No. (%)	No. (%)	
Length of stay in HaH (days) <sup>a</sup>	25 (13-31) [2-70]	27 (18-32) [3-70]	14 (7-30) [2-41]	0.0
< 10 days	8 (18.6)	3 (11.1)	5 (31.2)	0.2
10-30 days	20 (46.5)	13 (48.2)	7 (43.8)	
> 30 days	15 (34.9)	11 (40.7)	4 (25.0)	
Heart failure	12 (28.6)	8 (30.8)	4 (25.0)	0.7
AV conduction block	1 (2.4)	0 (0)	1 (6.3)	0.3
Sepsis	4 (9.5)	2 (7.7)	2 (12.5)	0.6
Inmune disorders	0 (0)	0 (0)	0 (0)	-
Cerebral embolisim	5 (5.0)	3 (11.5)	2 (12.5)	0.9
Need for readmission				
No readmission	31 (72.1)	20(74.1)	11 (68.8)	0.8
Due to por El progression	9 (20.9)	5 (18.5)	4 (25.0)	
Due to other reasons	3 (7.0)	2 (7.4)	1 (6.3)	

4 (9.3)

p-value

0.052

0.253 0.740 0.381 0.628 0.926

0.866

0.621

2 (12.5)

Conclusions: The lack of significant differences in clinical outcomes between patients meeting or not meeting OPAT-GAMES criteria suggests that these criteria may not adequately reflect the suitability of patients for HaH. Adjustments to the criteria, tailored to the specific characteristics, organization, and resources of HaH units, are recommended to optimize patient selection and enhance outcomes

2 (7.4)

Keywords: Infectious endocarditis, Hospital at Home, OPAT, GAMES, patient selection

#### groups.

Death (all causes)

HaH: hospital at home

a: Length of stay in days: Median (IQR p25 - p75), [minimum, maximum]

# LONG-TERM OUTCOMES OF HOSPITAL-AT-HOME CARE IN OLDER PATIENTS WITH COVID-19: A SINGLE-CENTER COHORT STUDY IN JAPAN

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital-at-home (HaH) care for older patients with coronavirus disease 2019 (COVID-19) remains underexplored, particularly concerning long-term outcomes. This study aimed to investigate the long-term outcome of HaH among older patients with COVID-19 using data from Japan.

Methods: This single-center cohort study included patients with COVID-19 aged ≥75 years who required hospitalization but received HaH care due to limited hospital bed availability between February 2021 and May 2023. We described data on patients' demographics, comorbidities, Clinical Frailty Scale (CFS), disease severity, and treatment. The primary outcome was all-cause mortality at 6 months post-HaH intervention. Secondary outcomes included the proportion of patients completing treatment exclusively through HaH, CFS score at 6 months, and change in CFS score from baseline to 6 months.

**Results:** A total of 280 patients were included (male, 36%; median age, 85 years; interquartile range [IQR], 81–90). Among them, 191 (68%) patients had at least one comorbidity. The median baseline CFS score was 5 (IQR, 4–6), with 94 (34%) patietns experiencing hypoxia (SpO2  $\leq$  93%). Regarding treatment, 169 (60%) patients received antibody or antiviral therapy, and 41 (15%) patients underwent steroid therapy. Treatment completion without hospitalization was achieved in 88% of patients. The 6-month mortality rate was 14.6%. Among survivors, the median CFS score at 6 months was 5 (IQR 4–7), with a mean change of 0.19 (±0.77) from baseline.

**Conclusions:** HaH care can be a safe and effective treatment approach for older patients with COVID-19, demonstrating no significant long-term functional decline.

Keywords: Hospital at Home, COVID-19, Frailty, long-term care, admission avoidance

# OPTIMIZING HEART FAILURE MANAGEMENT THROUGH HOSPITAL-AT-HOME PROGRAMS: A CASE SERIES ANALYSIS

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital-at-Home (HaH) programs provide acute, hospital-level care at home, offering a safe alternative for managing complex conditions like heart failure (HF). This program aligns with the existing standard definition, emphasizing 24/7 care, multidisciplinary oversight, and regulatory governance. This study evaluates the effectiveness of an HaH program in HF management through clinical outcomes and resource utilization.

**Methods:** A retrospective analysis was conducted on 13 HF patients enrolled in an HaH program. Metrics included length of stay (LOS), readmissions, emergency department (ED) visits, and resource utilization. Patients were monitored under governance protocols aligned with national safety standards and consented to participate.

**Results:** The cohort had a mean age of 76 ± 6.69 years, with 53.8% male. Diagnoses included acute-on-chronic diastolic HF (I50.33), chronic systolic HF (I50.23), and pulmonary embolism. Common comorbidities were diabetes (55.6%) and chronic kidney disease (33.3%). The average LOS was 16.2 days, with clinical stability (resolution of acute symptoms and improved functional status) achieved in 88.9% of patients. Discharge home was possible for 77%, while 11.1% required hospital transfer. Thirty-day readmissions and ED utilization rates were both 22.2%. Functional status improved in 66.7% of cases. Resource utilization included an average of 11 physician visits, 2 nursing visits, and 3 laboratory tests per patient.

**Conclusions:** HaH programs provide effective, regulated care for HF patients, reducing hospital burden while maintaining safety and improving outcomes. This study highlights the potential for global scaling of HaH programs by adhering to standards for episodic care, regulatory oversight, and multidisciplinary collaboration.

**Keywords:** Hospital-at-home, clinical outcomes, length of stay, resource utilization, Heart failure

# REDEFINING UTI CARE: CLINICAL OUTCOMES FROM A HOSPITAL AT HOME MODEL

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital-at-Home (HaH) allows patients requiring acute-level care to receive treatment in their homes rather than in a hospital. This episodic care model delivers hospital-level diagnostics, therapeutics, and nursing care under 24/7 specialist supervision, ensuring compliance with regulatory standards.By shifting the site of care from hospital to home, HaH redefines traditional approaches to managing acute illnesses, including urinary tract infections.

**Methods:** This retrospective study reviewed records of 39 patients diagnosed with urinary tract infections (UTIs) within the HaH program. The mean age was 69.5 years (SD = 18.99, range 17–93),with 53.85% male and 46.15% female participants.

**Results:** The mean length of stay (LOS) was 6.9 days (SD = 2.5, range 2–18). Patients received an average of 9.65 doctor visits, 10.49 nursing visits, and 2.52 lab visits, respectively. Comorbidities were present in 89.3% of patients, with diabetes (62.5%) and hypertension (51.8%) being the most common. Nearly half (46.4%) had a history of surgery. IV antibiotics were administered to 92.8% of patients, leading to a 70% reduction in C-reactive protein levels and a 28% improvement in renal function. Vital signs remained stable, with an average heart rate of 78 bpm and oxygen saturation of 97.4%. Pain levels averaged 3.1/10. Physical therapy was provided to 17.9% of patients, and lab monitoring tracked infection markers. The program achieved a low readmission rate (7.1%) and 100% patient satisfaction.

**Conclusions:** HaH represents a patient-centered, resource-efficient model that supports recovery at home while delivering high-quality care. This approach achieves favorable clinical outcomes, enhances patient autonomy, and provides excellent patient satisfaction.

**Keywords:** Urinary tract infections (UTIs), Readmission Rate, Patient-Centered Care, Patient satisfaction, Acute care

# DEVELOPING A RURAL HOSPITAL AT HOME SERVICE – ONE YEAR ON

# CLINICAL PRACTICE AND ADVANCES

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**Background and Aims:** NHS Lanarkshire in Scotland has an established hospital at home service for over 65s. However, the people of Clydesdale, a large remote and rural area in the south (61,000 population), have not had access to this service. Our aim was to expand the existing Hospital at Home service into the Clydesdale area, ensuring equity and equality for all older adults across the whole of Lanarkshire.

**Methods:** The Hospital at home model in Lanarkshire is consultant delivered with all patients reviewed face-face by a consultant. Given the geography and limited consultant staffing, we tested a new model. Patients would be assessed by a nurse/advanced practitioner in their home, use point of care blood testing and then have a virtual consultant review via Microsoft Teams. Stakeholder groups were set up with collaboratively working across health and social care partnerships to explore how best to achieve this model.

**Results:** In the first 12 months 364 patients were reviewed by the team. We were able to keep 73% patients at home until discharge from the service. Mean length of stay was 7.9 days. This equates to 2876 hospital bed days saved.

**Conclusions:** We have shown that with a few changes to the existing model, Hospital at Home can be a success in more rural areas of Lanarkshire. It is a model that could allow expansion of Hospital at Home services across remote and rural areas of Scotland and the UK, and could ensure equity of services to people living in these areas.

**Keywords:** Remote, Rural, Virtual consultation, Expansion of services, new models of care

# PROTOCOL FOR HOME ADMINISTRATION OF SUBCUTANEOUS DARATUMUMAB IN MULTIPLE MYELOMA AND AMYLOIDOSIS

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Multiple Myeloma (MM) and Primary Amyloidosis (AL) are rare hematological diseases of plasma cells. There are new treatments that have managed to improve the response and quality of life of patients. However, they require being administered in the Day Hospital or admitted. Daratumumab is a monoclonal antibody that is used in monotherapy or combination and is administered in the Day Hospital on a weekly, biweekly or monthly basis. The aim is to describe the protocol designed by a Hospital at Home Unit (HaH) for the administration of subcutaneous daratumumab.

**Methods:** Description of characteristics of patients treated by the HaH of La Fe University and Polytechnic Hospital following the daratumumab SC administration protocol. Inclusion criteria: patients with MM or AL treated with daratumumab SC with low comorbidity and ECOG≤2.

**Results:** - Proposal for HaH follow-up from the Hematology Service - Admission to UHD - Nurse call one hour before the visit confirming premedication intake - Pickup of the drug at the Pharmacy Service and correct transportation to the home - Assessment by doctor and administration by nursing (with protection) using SC line with extender at a rate of 3 ml/min, purged with SSF and removal of SC line - Telephone contact the next day to register and schedule a new visit.

**Conclusions:** A Hospital at Home Program for patients with MM or AL to receive treatment with daratumumab SC can benefit those patients who are frail or have mobility problems, improving their quality of life and avoiding trips to the hospital

Keywords: Hospital at Home, Multiple Myeloma, Primary Amyloidosis, Daratumumab

# INNOVATING CARE DELIVERY: EFFECTIVE CELLULITIS MANAGEMENT BY HOSPITAL AT HOME SERVICE

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Cellulitis is a common bacterial skin infection often requiring prompt and effective treatment to prevent complications. Traditionally managed in inpatient settings, recent advancements in healthcare delivery have introduced Hospital-at Home (HaH) services as alternative. This study aims to evaluate the effectiveness and feasibility of the HaH model for treatment of cellulitis, specially assessing clinical outcomes, healthcare resource utilization and readmission rates. By comparing these metrics with traditional inpatient care, we aim to provide evidence on whether HaH can be a viable and efficient alternative for cellulitis management.

**Methods:** We conducted a retrospective analysis of patients diagnosed with cellulitis who was admitted under HaH service between January 2024 and August 2024. Key outcomes measured included clinical resolution, healthcare resource utilisation, and readmission rates. Data were collected from electronic health records.

**Results:** A total of 70 patients with cellulitis were admitted under HaH service from January to August 2024. 93% of patients achieved complete resolution of symptoms with an average length of stay of 4.4 days as compared to 7 days for traditional hospital stay, resulting in a 56% cost saving. Healthcare resource utilisation showed 308 bed days saved, highlighting significant healthcare resource optimization. However, 7% of patients returned back to Emergency department and require readmission back to hospital with no adverse event reported

**Conclusions:** The HaH service for cellulitis not only demonstrated non inferior clinical outcomes comparable to traditional inpatient care while significantly reducing healthcare cost and resource utilisation. This model provides a viable alternative to traditional inpatient treatment without compromising patient care quality.

**Keywords:** cellulitis, Hospital-at-home, Readmission, Healthcare Utilisation, patient outcomes

# FEBRILE NEUTROPENIA, A CHALLENGE IN HOSPITAL AT HOME

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Febrile neutropenia is defined as a temperature above 38.3°C, or above 38.0°C in two readings over more than 2 hours, in patients with neutrophils <500 or <1000 expected to drop to <500 in 48 hours. The condition often lacks focal symptoms due to a deficient inflammatory response. Managing febrile neutropenia in a home setting presents unique challenges for both healthcare teams and patients.

**Methods:** A 54-year-old man with a history of gastric plasmablastic lymphoma, chemotherapy, and bone marrow transplant presented with fever, severe odynophagia and a dry cough. He had been treated for a dental abscess with amoxicillin-clavulanic acid for a week without improvement. Upon admission, he had febrile neutropenia and was hemodynamically stable. Initial treatment included Piperacillin-tazobactam, Vancomycin, Acyclovir and Fluconazole. Home hospitalization was initiated, and on day 5, Meropenem replaced Piperacillin-tazobactam due to persistent fever and neutropenia.

**Results:** Despite extensive diagnostic testing, including septic screenings, CT scans, and echocardiograms, no new findings were observed except diffuse broncho-vascular enhancement on a chest CT. Acyclovir was discontinued on day 10 and bronchoscopy was performed due to suspected pulmonary aspergillosis. The patient was treated with IV Voriconazole and transitioned to oral therapy after discharge. He completed 21 days of antibiotic therapy and 19 days of Filgrastim, leading to normalization of neutrophil counts. He was discharged after 29 days.

**Conclusions:** This case demonstrates the capability of Hospital at Home Teams to manage complex cases like febrile neutropenia by involving both the patient and their family in the care process.

**Keywords:** Febrile neutropenia, Antibiotic therapy, home hospitalization, Pulmonary aspergillosis

# ELDERLY PATIENTS IN HOME HOSPITALIZATION: THE CHALLENGE OF POLYPHARMACY

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Introduction: Polypharmacy refers to the routine use of five or more medications simultaneously and is considered inappropriate when ineffective or unsafe drugs are prescribed, potentially causing harm to the patient. As the population ages and multimorbidities increase, ensuring medication safety for elderly patients in home-based care presents a complex yet critical challenge. Objective: To evaluate the incidence of polypharmacy and the use of potentially inappropriate medications among patients in Home Hospitalization, as a foundation for developing strategies to promote the rational use of medications.

**Methods:** This retrospective descriptive study included patients aged 60 and older in Home Hospitalization between January and December 2023, utilizing data from electronic medical records.

**Results:** Of the 228 patients assessed, 193 (85%) exhibited polypharmacy, with 94 (41%) taking 30 or more medications. Polypharmacy was more prevalent in women and among those aged 60–79. The most frequently prescribed therapeutic classes were gastrointestinal drugs, antimicrobials, topical agents, and central nervous system depressants. Among the 5735 prescribed items, 162 were identified as potentially inappropriate for elderly patients.

**Conclusions:** Conclusion: The high prevalence of polypharmacy among elderly patients in home-based care highlights the urgent need for policies aimed at regular prescription reviews and deprescribing initiatives. Active identification and management of inappropriate medications, in collaboration with clinical pharmacists and physicians, are essential to ensuring safe and effective care, including dosage adjustments and the implementation of non-pharmacological therapies.

Keywords: Polypharmacy, Home Care, Clinical pharmacy

# CLINICAL PROFILE OF PEDIATRIC PATIENTS IN HOME CARE

# CLINICAL PRACTICE AND ADVANCES

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**Background and Aims:** Introduction: Pediatric care is a crucial component of Home Care services, given the demographic and social characteristics of our country. Understanding the clinical profile of pediatric patients is key for selecting and training care teams, developing clinical protocols, and organizing emergency home care services.Objective: To identify and analyze the clinical complexity of pediatric patients in home care and the main reasons for clinical complications.

**Methods:** This retrospective observational study analyzed electronic medical records of patients aged 0-17 years who received home care under the Home Hospitalization model from Jul-2023 to Jun-2024.

**Results:** 297 patients were evaluated, 55% (163) of whom were male, with a mean age of 7 years. Neurological disorders (32%), congenital malformations (18%), and respiratory diseases (17%) were the most prevalent. A total of 234 children (79%) were bedridden, and 160 (54%) had dysphagia. Regarding respiratory support, 66% were tracheostomized, 59% required ventilatory support, and 51% used oxygen therapy. Gastrostomy was the most common feeding method, used in 85% of patients. The incidence of ventilator-associated pneumonia was below the national benchmark for Intensive Care Units (2.2 vs. 4.6 cases/ventilation-day). The Emergency Center was activated 2.3 times per patient, primarily for device-related issues (30%), respiratory problems (24%), and infections (20%). The average monthly hospitalization rate was 8.3%.

**Conclusions:** Conclusion: Pediatric patients in home care exhibit high clinical complexity, relying heavily on respiratory and nutritional support. Frequent device-related issues and respiratory complications highlight the need for enhanced team training, clinical protocols, and preventive strategies to improve outcomes and reduce hospitalizations.

Keywords: Pediatric, Home Care, Home Hospitalization model

# ADVANCE CARE PLANNING IN ONCOLOGY PATIENTS REFERRED TO HOME-BASED PALLIATIVE CARE

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Introduction: An increasing number of oncology patients are receiving home-based palliative care. Advance Care Planning (ACP) allows patients, families, and healthcare providers to define future goals and treatments in alignment with patient's preferences. ACP encompasses: 1.patient and family values; 2.potential clinical progressions; 3.treatment options; 4.advance directives (ADs); 5.end-of-life care. A defined ACP before or at the time of admission to home care is essential, particularly for patients with estimated survival of less than eight weeks. Objective: To assess the presence of ACP and its components in oncology patients transitioning from hospital to home-based palliative care.

**Methods:** We analyzed admission forms of patients transferred to home-based palliative care between Aug-2023 and Jul-2024. Demographic data, clinical history, functionality scales, and ACP documentation were collected.

**Results:** We reviewed 401 admission forms from oncology patients, with 14 having ECOG 1, 108 ECOG 2, 188 ECOG 3, and 91 ECOG 4. Regarding PPI scores, 263 were  $\leq$  4, 80 between 4 and 6, and 58 > 6. During hospitalization, 36% of patients received palliative care support. Among those with ECOG 3 and 4 and PPI greater than 4, indicating lower estimated survival, 39% had ADs defined or initiated, and 17% discussed preferences for place of death.

**Conclusions:** Conclusion: Communication remains a key barrier between healthcare professionals and patients with advanced illness. Most patients admitted to home-based palliative care lacked a structured ACP, requiring its development after transition. Strengthening hospital, outpatient, and home care teams through communication training and education is essential to address this gap

Keywords: palliative care, Home Care, Oncology patients

# ADVANCING HOSPITAL AT HOME THROUGH ARCH (ACUTE AND REHABILITATIVE CARE AT HOME) - AN INNOVATIVE APPROACH

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital-at-home programmes have been implemented to tackle high bed occupancy rates in land-scarce Singapore. Changi General Hospital (CGH), a 1000-bed capacity hospital serving the Eastern region of Singapore, has established a hospital-at-home programme since 2022. Current models of hospital at home mirrors the traditional hospital framework whereby patients are admitted to a specific specialty based on the main clinical diagnosis. With the growing proportion of older inpatients with complex multimorbidity and significant healthcare needs, CGH decided to launch a new model of inpatient care at home. The department of Acute and Rehabilitation Care at Home (ARCH) was formed to incorporate team-based care with interprofessional collaboration made up of a multidisciplinary team of diverse specialties and disciplines.

**Methods:** We describe the creation of the ARCH department, which integrates multiple specialties focusing on persons centred care with the aim to improve persons and systems outcome. ARCH combines resources from multiple disciplines comprising of medical specialists, specialty nurses, nurses, pharmacists, physiotherapists, occupational therapists, dietitians and medical social workers. Case reports highlighting collaborative efforts within ARCH and their impact on patient outcomes will be shared.

**Results:** Performance indicators like average length of stay, bed days saved, 30-day unscheduled readmissions and mortality rates will be discussed. Results from patient satisfaction surveys will be presented.

**Conclusions:** The ARCH department demonstrates the benefits of a multidisciplinary, interprofessional approach to inpatient care at home. By aggregating resources from various specialties, ARCH strives to continue to meet the increasing complexity of patient needs and optimize healthcare resource utilization.

Keywords: interprofessional, collaboration, multidisciplinary, team based care

# HAH AND REMOTE MONITORING PLATFORM: COMPLEMENTING EACH OTHER FOR OPTIMUM CARE OF CANCER PATIENTS AT HOME.

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** More and more cancer patients are being treated at home, especially as day hospitals are being replaced by HAH chemotherapy. To enhance patient follow-up between treatments, our HAH introduced a remote monitoring platform (RPM) in 2022. This document outlines the activities of the platform one year after its implementation.

**Methods:** The platform is staffed by a nurse, an oncologist, a secretary, and a referral pharmacist, with the support of digital applications. This digital tool automates the regular collection of patient-reported symptoms, potential treatment side effect, and quality of life data. Based on the patient's responses, an algorithm generates alerts at varying levels, allowing the nurse and doctor to take appropriate action.

**Results:** After one year of operation, more than 200 patients have been included in the program. The mean age was 56±13 years, and 86% were women. Most of cancers were breast cancer (71%). The most common treatments were targeted therapies (79%) and immunotherapies (18%). The program demonstrated strong adherence, with 85% retention at the three-month mark and an 86% response rate to the weekly questionnaire. All alerts were addressed by the nurse within an average of 4h45. Four situations avoided emergency hospitalization and delayed chemotherapy (two situations with fever requiring antibiotic therapy and blood cultures taken at HAH, two with thirsty skin lesions justifying expert evaluation and rapid treatment at home).

**Conclusions:** Telemonitoring is an efficient complement to HAH, as it improves patient follow-up between treatments and allows great reactivity to manage acute situations directly from the HAH, avoiding unwanted hospitalizations.

**Keywords:** Immunotherapy, Chemotherapy, Telemonotoring platform, Hematooncology, resilience care

# HOME ADMINISTRATION OF IMMUNE CHECKPOINT INHIBITORS. REPORT ON 115 PATIENTS FROM SANTE SERVICE FOUNDATION HOSPITAL-AT-HOME

# **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Annually, the Fondation Santé Service provides home hospitalization (HAH) for 2,700 cancer patients in the Paris region, administering 32,000 antineoplastic treatments, including an increasing number of checkpoint inhibitors (CPIs). We aimed at evaluating the safety and feasibility of these drugs in this setting.

**Methods:** A review of our HAH patients who received CPI (Pembrolizumab, Nivolumab, Atezolizumab, Avelumab and Durvalumab) in 2023. All patients had previously received these drugs in hospital, with good tolerability. Infusion reactions and any treatment-related adverse events (AES) were recorded by our nurse at the time of administration. Data from the medical records were used.

**Results:** A total of 705 CPI administrations were conducted on 115 patients. The mean age was 66.9 years, 59.1% were women. A total of 33% of administrations were for lung cancers, 26% for melanoma, and 25% for urinary tract cancers. The most commonly administered drugs were pembrolizumab (52.7%) and nivolumab (26.2%). The mean duration of the infusion was 44 minutes. Only 11 administrations were cancelled in 11 distinct patients, mainly due to unmet biological criteria. Any adverse event was reported in 72.2% of patients and 47.1% of administrations. The most common adverse event was asthenia (66.1% of patients and 38.5% of administrations). No treatment was cancelled due to AEs. No significant differences were found in HAH follow-up, cancellations, or reported symptoms according to cancer type or agent used.

**Conclusions:** Administration of CPI at home is feasible and safe, prompting further integration of HAH into the care of cancer patients.

Keywords: Immunotherapy, Oncology, Home cancer treatment

# TREATMENT OF STAGE 3/4 PRESSURE ULCERS IN HOSPITAL AT HOME, WITH A STANDARDIZED PROTOCOL USING PURE CALCIUM ALGINATE DRESSING : A MULTICENTRIC STUDY

# **CLINICAL PRACTICE AND ADVANCES**

<u>Marc Poterre</u><sup>1</sup>, Rodrigue Teumawe<sup>1</sup>, Laurent Petit<sup>2</sup>, Jean-Michel Hoarau<sup>3</sup>, Vincent Hernandez<sup>4</sup>, Claire Vacher-Coponat<sup>5</sup>, Emmanuel Bovier<sup>6</sup>, Maurice Laloum<sup>7</sup>, Jean-Louis Mazzoni<sup>8</sup>, François-Noel Desfemmes<sup>9</sup>, Eugénie Apedjinou<sup>10</sup>, Elodie Piboyeu<sup>11</sup>, Rachel Nau<sup>12</sup>, Elouan Cherot<sup>13</sup>, Vanessa Palczynski<sup>14</sup>

<sup>1</sup>Fondation Santé Service, , France, <sup>2</sup>HAD Sud Alsace, , France, <sup>3</sup>AUB Santé, , France, <sup>4</sup>HAD Bagatelle, , France, <sup>5</sup>HAD Clara Schuman, , France, <sup>6</sup>HAD Soins & Santé, , France, <sup>7</sup>AURAL, , France, <sup>8</sup>HAD de Corse, , France, <sup>9</sup>LNA santé HAD Loir & Cher, , France, <sup>10</sup>HAD Vignes & rivières, , France, <sup>11</sup>LNA Santé HAD Saumurois, , France, <sup>12</sup>LNA Santé Val de Loire, , France, <sup>13</sup>HAD 35, , France, <sup>14</sup>HADAN, , France

**Background and Aims:** Pressure ulcers are a common pathology. Its prevention and treatment are more complex at home because caregivers are not present at the patient's bedside 24 hours a day. We have set up a clinical study to show that the improvement of pressure ulcers is possible thanks to vigorous management in HAH.

**Methods:** Non-comparative multicenter clinical study. Patients with stage 3 and 4 pressure ulcers in HAH were treated with a pure calcium alginate dressing for 8 weeks. The primary endpoint is the percentage of reduction in the surface area of the pressure ulcer at 8 weeks. Wound assessments were performed every two weeks.

**Results:** 16 French HAH establishments participate in the study. 114 patients are included. 45 % male / 55 % female - Mean age 80.2 years [19; 99]. 70 patients have already completed the 8 weeks of treatment. The full statistical analysis will be available in November. However, the review of individual cases shows a clear trend of improvement.

**Conclusions:** Our study demonstrates the ability of HAH to succeed in performing a large-scale multicenter clinical study. The full results will be presented for the first time at the congress. We hope to show that home care by HAH teams, with an appropriate dressing, allows for a significant improvement in pressure ulcers in patients who are often vulnerable and have an impaired quality of life.

Keywords: pressure ulcer, calcium alginate, wound healing, efficacy, Hospital at Home

# DESCRIPTIVE STUDY OF INTRAVENOUS ANTIBIOTIC THERAPY CARRIED OUT BY A HOSPITAL AT HOME DURING ONE YEAR

# **CLINICAL PRACTICE AND ADVANCES**

<u>Manuela Ramos Plá</u>, Amelia Illana Mayordomo, Beatriz Boscá Albert, Daniel Cloquell Muñoz CONSORCIO HOSPITAL GENERAL UNIVERSITARIO VALENCIA, Hospital At Home, Valencia, Spain

**Background and Aims:** The administration of intravenous antibiotics has historically required hospitalization of the patient for a variable time. The effectiveness of Home Intravenous Antibiotic Therapy (HIVAT) has been demonstrated thanks to technological advances in the field of intravenous infusion.

**Methods:** A retrospective study of administered-at-home antibiotics was conducted from July 2023 to June 2024, assessing the service of origin, access to intravenous lines and complications

**Results:** 262 HIVAT were administered to 142 men and 120 women, aged from 25 to 100 years old. Internal medicine referred to us the greatest number of patients as well as the Infectious Diseases Unit and, also, patients from the Social and Health Care Residences were referred as well as from other hospitals in the city (8.3%). The most frequent infections were urinary and respiratory The most frequently administered antibiotics were ertapenem and piperacillin-tazobactam. The most frequent way of administration was intermittent administration by gravity, but administration with elastomers implied, with continuous/discontinuous perfusion pumps being used only during 3 occasions. A total of 102 peripherally inserted central catheter/midline were placed and there were infectious complications related to the intravenous line in only one of them.

**Conclusions:** The results obtained in the study suggest that HIVAT is effective with few complications allowing savings and comfort for the patient and family. The Hospital at Home services can guarantee the correct administration of these treatments thanks to the qualification of their staff. The new forms of intravenous administration of drugs, mainly the use of elastomers, let the number of HIVAT be increased.

Keyword: 'INTRAVENOUS' 'HOME' 'ANTIBIOTICS''THERAPY'

# HOME-BASED TRANSFUSION OF LABILE BLOOD PRODUCTS (PLATELET AND RED BLOOD CELL CONCENTRATES): AN EXPERIENCE REVIEW.

# **CLINICAL PRACTICE AND ADVANCES**

# Arnaud Roche<sup>1</sup>, Chloé Lacroix<sup>2</sup>

<sup>1</sup>Sitex Sa, Plan les Ouates, Switzerland, <sup>2</sup>Sitex Sa, 12 Chemin Des Aulx, Plan les Ouates, Switzerland

**Background and Aims:** Sitex, a private hospital at home organization (HaH) operating in the cantons of Geneva and Vaud in Switzerland, collaborated with various medical services and conducted 390 home-based blood component transfusions in 2022. In Switzerland, home blood transfusions must adhere to the standards set by the Federal Law on Therapeutic Products (LPTh) and the Ordinance on Therapeutic Products (OPTh), along with recommendations from cantonal health authorities. The feasibility of home-based blood transfusions relies heavily on the collaboration between physicians, HAH services, and laboratories. Effective coordination ensures a smooth and safe process, providing patients with a comfortable alternative to outpatient hospital transfusions. HAH services play a crucial role in managing logistics as well as providing paramedical and pharmaceutical follow-up, thereby enhancing the quality of life for patients requiring regular transfusions.

**Methods:** This experience review is based on an analysis of the overall process governing home-based blood component transfusions, involving all stakeholders.

**Results:** No serious adverse events were reported in 2023. Nurses are well-trained, a care procedure is available, and this practice is integrated into the continuing education program. Furthermore, collaboration with laboratories and prescribers is tightly regulated, and the transport of blood components is secure.

**Conclusions:** Home-based blood component transfusion is a common, safe, and well-regulated practice. Our study confirms the feasibility of this practice, with a low rate of adverse events (3%).

Keywords: Transfusion, clinical practice, Hospital at Home (HaH)
# HOME-BASED TRANSFUSION OF LABILE BLOOD PRODUCTS (PLATELET AND RED BLOOD CELL CONCENTRATES): AN EXPERIENCE REVIEW.

### **CLINICAL PRACTICE AND ADVANCES**

### Arnaud Roche<sup>1</sup>, Chloé Lacroix<sup>2</sup>

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Keywords: Transfusion, Hospital at Home (HaH), clinical practice

# INTRAVENOUS ANTIBIOTIC TREATMENT AT HOME IN ATHENS, GREECE: AN OUTSIDE HOSPITAL HEALTH CARE SYSTEM EMERGING?

### **CLINICAL PRACTICE AND ADVANCES**

<u>Dionysios Rodis</u><sup>1,2</sup>, Ilias Karabinos<sup>3</sup>, Georgios Theocharis<sup>1,2</sup> <sup>1</sup>Euroclinic, Internal Medicine, Greece, <sup>2</sup>SOS IATROI S.A., Athens, Greece, <sup>3</sup>Euroclinic, Cardiology, Greece

**Background and Aims:** Background: Hospital at home model is developing in Western countries especially after Covid 19 epidemics, due to the rise of new technologies that made it a safe alternative strategy to hospitalization. Objective : We aim to describe the demographics and treatment characteristics of the patients who needed intravenous antibiotic therapy at home provided by SOS DOCTORS in Athens, Greece.

**Methods:** We performed a retrospective analysis of data of patients treated with intravenous antibiotics at home by SOS DOCTORS network (a model of out-of-hospital-multispecialty-emergency-medicine) from July 2023 to July 2024. SOS DOCTORS performed 19733 house calls and 602(3%) received intravenous treatment at home and 177(29%) of them received intravenous antibiotic treatment at home.

**Results:** A total of 177 patients received intravenous antibiotic treatment during the evaluated period. 63(35%) were male. The mean age was 89 with 50.8% older than 90years. The main diagnosis were low respiratory tract infection in 85 cases (48%), fever with unspecified diagnosis in 54 cases(30,5%), in urinary tract infection in 26 cases (14,6%). Most of the patients received treatment with beta-lactams 99(61%) and fluoroquinolones 64(36,1%) both as monotherapy or combination therapy. Mean duration of hospital at home antibiotic treatment was 6,8 days.

**Conclusions:** Conclusion: Most patients treated with the model of Hospital at home antibiotic treatment were elderly. The most common diagnosis was low respiratory tract infection. Beta-lactams and fluoroquinolones alone or in combination were the most common prescribed antibiotics. "Hospital at home" services have become more convenient and appreciated by elderly patients.

Keywords: intravenous, antibiotics, Hospital at Home, Athens, treatment

### SINGLE POINT OF ACCESS (SPOA):A MULTI-DISCIPLINARY TEAM PROVIDING TRIAGE FOR ACUTELY UNWELL PATIENTS WHO HAVE CALLED FOR AN URGENT AMBULANCE

### **CLINICAL PRACTICE AND ADVANCES**

<u>Shelley Sage</u><sup>1</sup>, Alexandra Baxter<sup>2</sup>, Jonathan Mcgarvey<sup>1</sup> <sup>1</sup>Kent Community Health NHS Foundation Trust, Urgent Care Services, Herne Bay, Kent,, United Kingdom, <sup>2</sup>KENT COMMUNITY HEALTH NHS FOUNDATION TRUST, Trinity House, Ashford, United Kingdom

**Background and Aims:** The Purpose and Function of SPOA SPOA is a coordinated system that allows for the redirection of patients from Ambulances services to appropriate care pathways, minimising unnecessary Emergency Department (ED) visits. The main alternatives to sending acutely unwell frail people to the emergency department are admission to hospital-at-home, Urgent care services in the community and see and treat by paramedics. The primary objective to provide alternative care options, particularly for patients with manageable conditions.

**Methods:** MDT formed of an ED consultant and/or a Community Frailty Clinician (trained ACP or Medic) and a senior Urgent Care Response clinician (typically a registered nurse), 2 Advanced Paramedic Practitioners. The MDT is in attendance 10-18.00 Monday to Friday and started 6th November 24 All emergency calls for ambulances are triaged, if appropriate clinicians can video conference with crew on scene, patient, carers to discuss treatment options.

### **Results:**

#### Evaluating the Impact and Efficiency of the SPOA Intervention: A Case Study

In November 2023, East kent conducted a review of the efficacy of the SPOA services.

The chart below shows the patient outcomes and potential alternative pathways. Notably, 241 patients were directed to the ED, though only 182 required ED services. This discrepancy highlights opportunities for service improvement.





## Levels of admissions into local acute sites against frailty related diagnoses





	Admissions saved (weekly) from the SPOA	Beddays saved (weekly) from the SPOA				
Ashford	27.3	179.2				
Thanet	19.1	166.9				

# (we care)

These results show that 59/232 patients were treated in the Frailty H@H a further 24 could have been treated in the H@H if there had been capacity. This was reflected in the reduction in admissions to the ED.

**Conclusions:** SPOA has been experimented in two communities of East Kent, i.e. Ashford and Thanet. After evaluation, of the impact of East Kent Hospitals NHS Foundation Trust, we have seen a decrease on overall admissions which coincidence with the SPOA activity At the moment Ashford SPOA has been able to save an average of 114 admission a months (with a corresponding of 752 beddays) and Thanet 80 admissions per month (with a corresponding 701 beddays).

**Keywords:** Frailty, Hospital-at-home, Single point of access, Urgent Care, Multidisciplinary-team

# PATIENT-LED ADVANCE CARE PLANNING IN FRAILTY URGENT CARE HOSPITAL AT HOME.

### **CLINICAL PRACTICE AND ADVANCES**

<u>Shelley Sage</u>, Violet Chikomba, Jo Seeley Kent Community Health NHS Foundation Trust, Urgent Care Services, Herne Bay, Kent,, United Kingdom

**Background and Aims:** Advance care planning (ACP) is: 'a process that supports adults at any age or stage of health in understanding and sharing their personal values, life goals and preferences regarding future medical care' Evidence demonstrates that advanced care planning often identifies that patients wish for fewer investigations and treatments in place-based-hospital and more treatment at home with comfort care if they deteriorate and are dying. To demonstrate that collaboration between patients, family, carers and health professionals, to plan for changes and deterioration in health, allow the best and most appropriate health care to be provided.

**Methods:** A Treatment Escalation Plan template that was used to document discussions with patients was agreed. This document is kept with patients to inform any decisions about their medical treatment if they become unwell and are not able to contribute to the decision

#### making.

	TREATMENT ESCAL	ATION PLAN	NHS										
	Incertification according		Line	Capacity	nd representati	on at time of comp ient capacity to pa	letion	e recommendations	on this plan?				
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Address			Involvement in making this plan										
			The clinician(s) signing this plan is/are confirming that (select A or B, OR complete section C below)										
Hospita//NHS No				a A This p	A This person has the mental capacity to participate in making these recommendations and has been involved in practice this pice.								
		Summary of relevant inf	ormation for this plan	r B Thire	erson lacks the	mental capacity to	participate in	making these reco	mmendations	. This plan has	been made		
Include diagnosist, communication needs and reasons for preferences and recommendations			in consulta	In consultation with their legal proxy or family members/friends									
				a c When	the above have	e not been achieve	d, valid reas	ons must be stated	here				
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Active Treatment Including	Hospital but not	Treatment of conditions in	Comfort care in usual residence only	Suspecte	COVID								
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**Results:** Since 2019 these documents have been completed as part of proactive frailty and hospital-at-home urgent care services. In the last year 2127 asessment were completed by the Frailty hospital at home. People living with frailty require personalised treatments that is not always in line with clinical guidance. Patients wishes are often for fewer interventions.

**Conclusions:** All health care professionals are aware of Treatment escalation plans and use the contents to guide decisions about treatment. Emergency ambulance service use the documented TEP or RESPECT forms to help decide whether to take patients to hospital. This also allows people who do not want to go to hospital to access hospital level care in their own home.

**Keywords:** Frailty, Hospital at Home, advanced care planning, treatment escalation plan

# OPTIMISING GLUCOSE CONTROL FOR PATIENTS ENROLLED UNDER A HOSPITAL AT HOME PROGRAM WITH REMOTE CARE MONITORING

### **CLINICAL PRACTICE AND ADVANCES**

<u>Pauline Seah</u> Woodlands Health, Geriatrics Medicine, Singapore

**Background and Aims:** Hospital at Home (HaH) has emerged as an alternative to conventional hospital admissions, incorporating remote monitoring and virtual consultations. This study examines HaH's effectiveness in managing glucose control in diabetic patients.

**Methods:** Three clinical cases were analyzed where patients received HaH care as part of inpatient early supported discharge. Vital signs monitoring, adjusted medication regimens, and close clinical oversight were key components of the care strategy.

**Results:** Case 1 describes a diabetic female with gastroenteritis who experienced symptomatic hypoglycemia on presentation but achieved more consistent glucose control on reduced doses of diabetic medications with HaH care. Case 2 involves a diabetic male admitted for treatment of urinary tract infection and bacteremia, where prompt detection of asymptomatic hypoglycemia allowed for safe adjustment of medications. Case 3 highlights the effective management of recurrent hypoglycemia in an elderly male, diagnosed with exogenous insulin antibody syndrome under HaH care. Collaborative management with endocrine specialists led to smooth transition from insulin preparations to oral diabetic medications, resulting in sustained glucose control without further hypoglycemic episodes.

**Conclusions:** The findings underscore HaH's potential to maintain optimal glucose control outside of classic hospital environments, yet accommodating individual dietary routines and strengthening patient satisfaction. Furthermore, the successful diagnosis and management of conditions like exogenous insulin antibody syndrome highlight HaH's ability to address complex diabetes cases outside traditional hospital settings. HaH shows promise in improving healthcare efficiency and outcomes, suggesting its integration into broader strategies for managing chronic conditions like diabetes.

**Keywords:** Diabetic patients, Remote glucose monitoring, Exogenous insulin antibody syndrome

# HOSPITAL CARE AT HOME: WHY AND HOW IT THRIVES IN AN INTEGRATED HEALTH SYSTEM

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital at home in an integrated health system like Kaiser Permanente (referred to as Advanced Care at Home or "ACAH") thrives by facilitating care coordination and patient transitions. ACAH serves an alternative to hospital level of care by offering end-to-end, 24/7 coverage for patients, which includes remote patient data monitoring in a patient's home.

**Methods:** Virtual follow-up combined with in-home visits ensure patients are safely treated and recover as expected. Care gaps are identified and filled as they arise. Patients are covered with multiple pathways for care escalation back to a hospital if a patient experiences an unexpected change in clinical status.By leveraging our system's comprehensive electronic health record (Epic's KP HealthConnect, or "KPHC"), we can ensure that patients receive holistic, continuous, high-quality care in the comfort of their homes. KPHC has multiple modalities that allow for rapid communication and data sharing between ACAH providers, hospital-based physicians, and specialists.

**Results:** While new information is uncovered (e.g. a new blood culture or pathology result, change in clinical status), KPHC allows for all pertinent members of that patient's care team to be updated in real time, minimizing delays in care and ensuring an optimal outcome. Stable patients transition back to the care of their PCP/specialist in a well-coordinated manner that minimizes gaps in care and improves overall patient and family satisfaction.

**Conclusions:** The integration inherent in Kaiser Permanente's foundation promotes an efficient and patient-centric ACAH program, underscoring its value in enhancing care delivery and outcomes while leveraging the strengths of a unified health care system.

Keywords: care at home, integrated, Remote monitoring, care gaps, care delivery

### VIRTUAL HOSPITAL CARE FOR CARDIOLOGY PATIENTS REDUCES LENGTH OF STAY WITHOUT INCREASING RISK OF READMISSION OR DEATH

### CLINICAL PRACTICE AND ADVANCES

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**Background and Aims:** NHS England's virtual hospital (VH) programme has onboarded over 400,000 patients; however, limited data explores VH impact on patient outcomes.

**Methods:** Over 25 months, 1895 patients were managed by VH via admission avoidance and early supported discharge pathways, including 438 patients suffering from cardiac pathology, principally decompensated congestive heart failure, and fast AF. A comparator cohort of inpatients screened for VH care who declined for nonclinical reasons was identified from Electronic Patient Records (EPR). Patient episode and demographic data was extracted using EPR queries. VH patients were assessed at point of transfer to VH care; decliners were assessed from the admission VH care was offered. Length of inpatient stay was compared by Mann-Whitney U-test, with confidence intervals calculated by the bias-corrected and accelerated bootstrap. Fishers' exact test was used for categorical comparisons. Survival curves were compared by Log-rank test.

**Results:** Demographics and comorbidities were similar between both groups. Length of Stay was 2.7 days shorter for patients admitted to VH (p = 0.048, 95% CI 0.512 - 5.21). There was no evidence of increased risk of readmission at 30, 60, or 90 days (p = 0.855, 0.873, 0.538 respectively), or overall (p = 0.855). There was no evidence of increased risk of death at 90 days or overall (p = 0.0474, 0.22 respectively, favouring VH)

**Conclusions:** Virtual Hospital shortens length of stay across a range of cardiac pathologies. There is no evidence of increased risk of readmission; risk of mortality may be lower. A larger matched cohort will extend this evidence base further.

Keywords: NHS, Virtual Hospital, Safety, length of stay, Cardiology

## IMPLEMENTING INFUSION PUMPS IN A HOSPITAL-AT-HOME SETTING IN MALMO AND LUND, AN INITIAL REVIEW.

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Administration of intravenous antibiotics via mobile infusion pumps (elastomeric and electric) were introduced in the Hospital-at-Home (Sus Sjukhus Hemma) programs of Malmö and Lund, Sweden in 2023. This study aimed to evaluate outcomes for patients and staff as this new treatment was implemented.

**Methods:** A retrospective chart review was conducted for patients receiving treatment with infusion pump, from the start of September until the end of 2023. Demographic data were recorded, including the type of pump, duration of treatment, and outcomes in terms of readmission or early termination of treatment and complications related to the pumps.

**Results:** In total 328 patients were reviewed, of which 239 were treated with intravenous antibiotics. 91 patients were possible to treat with pumps but only 46 patients received the treatment (17 in Malmö and 29 in Lund). Mean age was 66,9 years and mean length of stay was 5,3 days, collectively accounting for 244 days. Mean number of visits per day was 1,5 per patient. Of the 46 patients, only 6 were readmitted to the hospital during or within a week of discharge. Treatment was prematurely discontinued in 5 cases. For 63% of patients, some manner of complication related to the pumps did occur.

**Conclusions:** Use of infusion pumps for administering antibiotics in a Hospital-at-Home setting has proven to be effective and safe. The study highlights some challenges encountered during introduction of infusion pumps into the setting. Infusion pumps are expected to play a key role in the future of Hospital-at-Home care.

**Keywords:** Infectious disease, antibiotics, Infusion pump, staff resources, Patient safety

# MINI NUTRITIONAL ASSESSMENT (MNA) AS NUTRITION SCREENING TOOL IN HOSPITAL AT HOME DEPARTMENT

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Malnutrition in the elderly population is a common health problem. Studies carried out in our country show a prevalence of malnutrition of 3.3% in the elderly who live at home, between 7.7 and 26% in those institutionalized. The aim of this study is to evaluate the nutritional status of the elderly hospitalized patient with the Mini Nutritional Assessment (MNA), its relationship with length of hospital stay and the incidence of malnutrition during hospitalization in a Hospital at Home Department.

**Methods:** A prospective study on the nutritional status of patients of 65 years or older admitted to hospital in at Hospital at Home Department was performed in 140 consecutive patients. In all patients a MNA test, an anthropometric (weight, height, body mass index, skinfold), and biochemical (proteins, lymphocytes, albumin) evaluation were performed; outcome, age, institutionalization, Charlson index and Barthel index were recorded.

**Results:** Mean age of the patients was 80.5 years (65-100 years), Charlson index 3.5 and Barthel index 75.69. Mean BMI 24,44. Mean length of hospital stay was 12,77 days, and mortality was 2.1%. Prevalence of malnutrition, assessed by MNA, was 10.7% (11 men and 4 women), and 40% ( 32 men and 24 women) of the patients were at risk of malnutrition. Malnourished patients have a longer length of hospital stay, higher Barthel and Charlson indexes.

**Conclusions:** Malnutrition increases length of hospital stay. The clinicians responsible for the patient should perform nutrition evaluation at hospital admission using simple screening tools that incorporate an explicit nutrition intervention plan.

**Keywords:** Malnutrition, Elderly, Hospital at Home, Mini nutritional assessment, Nutritional screening

### HOME CARE NURSES' EXPERIENCES IN TRANSFORMING TO HOSPITAL AT HOME (HAH): A PHENOMENOLOGICAL STUDY

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital at Home (HaH) is an innovative healthcare delivery model providing hospital-level care in patients' homes, requiring fundamental changes in home care nursing practice. This study aims to understand how nurses adapt to and experience HaH service delivery.

**Methods:** This study adopted a Husserlian phenomenological approach to explore nurses' experiences. The research was conducted from August to November 2024 at a regional teaching hospital in northern Taiwan. Six home care nurses with HaH implementation experience were purposively recruited. Data were collected through indepth interviews (60-90 minutes) and analyzed using phenomenological content analysis.

**Results:** The study identified three main themes from nurses' experiences in implementing HaH services: (1) Changes in nursing practice, including challenges in providing intravenous therapy at home and adapting to new nursing roles; (2) Maintaining quality and safety, through developing care protocols, assessing risks, and ensuring continuous care; (3) Organizational challenges, including staff scheduling, managing medical equipment, and coordinating care with other healthcare professionals. These findings highlight complex challenges in transitioning to homebased hospital care.

**Conclusions:** The findings reveal critical challenges in HaH implementation requiring systematic support. Healthcare organizations should establish standardized protocols for safe home-based care delivery and develop comprehensive workforce policies addressing workload and scheduling flexibility. Key requirements include portable medical equipment for home care and interprofessional networks for seamless care coordination. Additionally, clinical competency training needs enhancement, particularly in intravenous therapy and emergency response. These findings provide practical guidelines for improving HaH implementation. Future research should evaluate the effectiveness of these support systems and training programs.

**Keywords:** Hospital at Home, home care nursing, practice transformation, phenomenological study

## INCREASING UTILIZATION AND SUSTAINING OUTCOMES IN HOSPITAL-AT-HOME PROGRAMS – PARALLEL ANALYSIS OF MULTICOMPONENT STRATEGIES

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital-at-Home (HaH) programs provide acute-level care at home and improve hospital throughput. In the United States, the Centers for Medicare and Medicaid Services (CMS) Acute Hospital Care at Home waiver has swiftly increased the number of HaH programs. We conducted parallel evaluation of two major HaH programs within the third-largest health system in the U.S: the CMS waiver HaH program (Program 1) and the non-CMS waiver Early Supported Discharge (ESD) program (Program 2). We aim to assess the impact of multicomponent implementation strategies on program utilization.

**Methods:** Program 1, implemented at six hospitals, utilized discrete (weeks 1-12) and multifaceted (weeks 13-54) strategies involving provider education, nurse navigator support, involvement of clinical service line executives, and individualized audit and feedback. Program 2, at five hospitals, employed provider focused education and nurse navigator support (weeks 1-44), followed by provider performance through referral dashboard and patient eligibility reports (weeks 45-84). Interrupted time series analyses were used to evaluate HaH capacity utilization and referral rates.

**Results:** Both programs showed increased HaH utilization. Program 1 demonstrated weekly increases in capacity utilization (slope-change OR: 1.02, 95% CI: 1.01-1.04) and referring provider counts. Program 2 observed immediate level changes in referrals (MD: 14.8, 95% CI: 5.9-23.6) and utilization (MD: 13.9%, 95% CI: 6.2%-21.5%) after the second intervention phase, with sustained gains post-intervention.

**Conclusions:** Multicomponent strategies significantly improved and sustained HaH utilization in both CMS waiver and non-CMS waiver ESD programs. These findings underscore the effectiveness and scalability of HaH models to enhance patient care and hospital efficiency.

**Keywords:** Hospital-at-home, Early-Supported Discharge, Program utilization, CMS waiver, implementation strategies

# CHILDREN HOSPITAL AT HOME: A SINGLE-CENTER EXPERIENCE OVER 15 YEARS IN GREECE

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital at Home enables hospitals to treat patients at home with inpatient-level care. These patients have chronic and complex health problems and depend on technology and intensive medical care. We report our experience in the Paediatric Home Care program, which has been part of our department for the past 15 years and is the unique Home Care program in Greece.

**Methods:** Medical records of the Paediatric Home Care Unit were reviewed from 2011 until September 2024. Demographic data, presence of tracheostomy, mode of ventilation [oxygen, mechanical or non-invasive positive pressure ventilation (NIPPV)], and type of feeding (nasogastric tube, gastrostomy) were recorded.

**Results:** 366 children (195 males) were enrolled over the last 15 years; 48 patients have died. The mean age of the patients was 11.74 ± 7.39 years. The main categories of underlying disease were syndrome-congenital problem (17.2%), cystic fibrosis (25.9%), neurometabolic disease (12.8%), chronic lung disease (23.4%), cerebral palsy (10.1%), malignancy (9.8%) and obesity (0.5%). Sixty-nine patients (18.8%) were oxygen-dependent and 12 (3.2%) were on NIPPV. One hundred fourteen children (31.4%) had a tracheostomy, and 82 of them were dependent on a portable ventilator. 81 (22,1%) patients had an enteral feeding tube and 67 (18.3%) had gastrostomy.

**Conclusions:** Patients are characterized by heterogeneity and different needs according to the underlying disease. Because of the increasing number of these patients, the development of similar programs is imperative. There is an increasing need to implement the Home Care Program over the other tertiary Hospitals in Greece.

Keyword: technology-dependent, children, hospital at home, safety, clinical practice

# LONG-TERM VENTILATION IN CHILDREN WITH CHRONIC HEALTH DISABILITIES: A SINGLE CENTER "HOSPITAL AT HOME" EXPERIENCE OVER 15 YEARS

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Over the last few years, the prevalence of long-term invasive (IMV) and non-invasive ventilation (NIV) has risen due to the increase in life expectancy of chronic or critically ill patients. The study aimed to assess demographic data and the safety of long-term IMV and NIV among children with prolonged-term ventilation in a Hospital at Home setting.

**Methods:** Medical records of the patients were recorded from 2011 until September 2024. Demographic data, aetiology, presence of tracheostomy, and type of ventilation were recorded

**Results:** We evaluated 94 (25.8%) out of 366 patients (50 males, 44 females) with a mean age of 11.25 ± 6.01 years who depend on long-term ventilation. Twenty-seven of these patients have died (28.7%). The main groups of underlying diseases were syndromes- congenital diseases (28 patients, 29.7%), neurometabolic diseases (28, 29.7%), lung diseases (16, 17%), cerebral palsy (12, 12.7%), malignancy (7, 7.4%), obesity (2, 2.1%) and cystic fibrosis (1, 1%). Eighty-two patients (87.3%) had a tracheostomy and were dependent on a portable ventilator (IMV), and 12 patients (12.7%) had NIV through a mask, mainly during sleep.

**Conclusions:** For children discharged at home long-term ventilation is challenging, but it contributes to decreasing the days and cost of hospitalization and improves the child's and family's quality of life.

Keyword: technology-dependent, children, long-term ventilation, NIV, hospital at home

## EARLY HOME TRANSFER WITH HOSPITAL AT HOME IN THE EARLY POSTOPERATIVE PERIOD OF BARIATRIC SURGERY: A CASE-CONTROL STUDY WITH PROPENSITY SCORE MATCHING

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Hospital at Home (HaH) has proven to be safe and effective in medical procedures; however, there are few studies on its use in surgical cases. Objective: To evaluate the outcomes of early discharge to HaH in the postoperative period of bariatric surgery.

**Methods:** We conducted a retrospective case-control study with propensity score matching, including patients who underwent bariatric surgery from March 1, 2021, to December 31, 2022. The study compared outcomes of patients with conventional hospitalization (Hospital group) with those who were discharged early (within 24 hours post-surgery) to HaH (Hospital + HaH group).

**Results:** A total of 434 bariatric surgery patients were identified. Of these, 104 patients (24%) were included in the HaH group. After propensity score matching, 195 patients were analyzed: 95 in the Hospital group and 100 in the Hospital + HaH group. No statistically significant differences were found between the two groups in postoperative complication rates (p=0.27), 30-day readmission rates (p=0.622), or 30-day emergency department visits (p=0.959). The total length of stay was longer in the Hospital group than in the Hospital + HaH group ( $2.73 \pm 2.54$  vs.  $2.02 \pm 0.14$  days, p<0.001). No patient required transfer from home to hospital in the Hospital + HaH group. No deaths were reported in either group.

**Conclusions:** In this study, early discharge to HaH in the early postoperative period of bariatric surgery was a safe and effective alternative.

Keywords: bariatric surgery, surgical care, Early Discharge, surgical hospital at home

### EVALUATION OF PATIENTS DECLINED FOR OUTPATIENT PARENTERAL ANTIMICROBIAL THERAPY: A STEWARDSHIP PERSPECTIVE

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** The implementation of antimicrobial stewardship in acute care is essential for reducing the incidence of antibiotic resistance. The use of outpatient parenteral antimicrobial therapy (OPAT) facilitates a safe and effective administration of intravenous antibiotic at home. Nevertheless, there are concerns about regarding the overutilization of antibiotics.

**Methods:** Our research aimed to examine the impact of mandatory Infectious Diseases (ID) approbation for all candidates receiving Outpatient Parenteral Antibiotic Therapy (OPAT) in the Hospital at Home (HAH) Unit of Germans Trias i Pujol Hospital. We conducted a prospective interventional study on OPAT admissions over a twelve-month period. Patients referred for OPAT were assessed by an Infectious Diseases specialist, with the approval or rejection of OPAT based on adherence to specific infection management protocols and stewardship practices.

**Results:** During the intervention year, 340 patients were assessed in total. Of these, 89 were rejected, reflecting a 26% denial rate, as there were no indications for extended intravenous antibiotic treatment. The infectious disease specialist switched 84 patients to oral antibiotics, and in 5 cases, antibiotics were stopped entirely due to lack of need. Notably , no patients required emergency department visits due to clinical decline. The 30-day readmission rate was 5.6%, involving 5 patients.

**Conclusions:** The ID approval for OPAT is an effective way to limit the inappropriate use of parenteral antibiotics without poor clinical outcome.

Keywords: Stewardship, OPAT

# ADAPTATION OF THE HOSPITAL-AT-HOME PROGRAM IN SHANGHAI: EXPLORING STRUCTURAL FACTORS IN THE HEALTHCARE SYSTEM

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** The Hospital-at-Home (HaH) program has proven to be costeffective in numerous economically developed countries. However, its implementation in Shanghai, China, remains limited. With a rapidly aging population and a growing burden of chronic diseases, there is an increasing demand for both hospital and community-based services. This study investigates the adaptation of HaH programs within Shanghai's healthcare system, with a focus on analyzing the structural factors that impact its implementation and sustainability.

**Methods:** A descriptive qualitative study was conducted using semi-structured indepth interviews. Four community-based healthcare centers were selected through purposive sampling. Sixteen participants, including general physicians, nurses, and administrators involved in home care services, were interviewed. The interview framework was guided by core elements of the HaH care model. Data were analyzed using thematic analysis, with themes derived by segmenting data into coherent units and condensing them into key thematic areas. Reporting adhered to the Standards for Reporting Qualitative Research (SRQR) guidelines.

**Results:** Eight key structural factors were identified: (1) two-way transitions between hospital and home, (2) care delivery pathways, (3) facility availability, (4) home environment preparedness, (5) availability of professional resources, (6) safety concerns for both patients and healthcare providers, (7) medication supply issues, and (8) the preferences and needs of patients and family caregivers.

**Conclusions:** This study provides important insights into the feasibility of integrating the HaH program into Shanghai's healthcare system. The structural factors identified highlight key areas for future interventions and improvements to optimize program implementation and effectiveness.

Keywords: Hospital at Home, service, integrated care system, structural factors

# THE VIRTUAL WARD: A SAFE AND NOVEL APPROACH TO MANAGING PATIENTS WITH HEART FAILURE

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Heart failure (HF) is the leading cause of hospital admissions in >65s in the UK. West Suffolk Foundation Trust is a rural district hospital which piloted a HF virtual ward (VW) in November 2022, enabling patients to have daily video ward rounds, remote monitoring, IV diuretics, and daily multidisciplinary team input from HF, palliative and renal services. AIM: An audit to assess the safety and efficacy of managing HF patients in the VW.

**Methods:** Notes from all admissions over 15 months were reviewed. Adherence to care processes (e.g. fluid balance, daily weight, U&Es, and specialist reviews) were analyzed for patients of all subtypes of HF. Patients on supplementary oxygen and national early warning scores >4 were excluded.

**Results:** 118 admissions (n=88 patients) were included: 46:42 (M:F), mean age 76.9y. 56% of patients had preserved ejection fraction (EF), 34% had reduced EF, and 9% had moderately reduced EF. 95% of patients had their U&Es, weight, and fluid balance monitored ≥3 times per week. 100% of patients received HF specialist nurse input. 80 patients were managed with IV diuretics: 76% received Furosemide doses of ≥120mg. 75% of patients were discharged home, of these, 26% were re-admitted to the hospital within 30 days. 99% of patients were satisfied with VW care.

**Conclusions:** The VW is a safe environment to care for people with HF, successfully monitoring at-risk patients and implementing high dose IV treatments. VW could provide a solution to reducing hospital admissions and an opportunity to rapidly optimize the 4 pillars of HF treatment.

Keywords: Heart failure, Virtual Ward

### REVIEW OF CEFAZOLIN AND PROBENECID FOR CELLULITIS IN A HOSPITAL-AT-HOME – EXPERIENCE FROM A TERTIARY HOSPITAL IN SINGAPORE.

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Moderate to severe cellulitis is commonly managed in a Hospital-at-Home (HaH) setting in Singapore. While intravenous (IV) cefazolin is recommended by local guidelines, its frequent dosing demands significant resources. This study reviews the effectiveness of a combined regimen of once daily IV cefazolin with oral probenecid in reducing resource utilisation.

**Methods:** This retrospective review included patients with cellulitis admitted to HaH who were treated with cefazolin-based regimens. Suitability for the cefazolin-probenecid pathway was determined based on criteria such as exclusion of G6PD deficiency, bacteremia, renal impairment (CrCl <30ml/min), weight over 100kg, pregnancy, and significant drug interactions.

**Results:** Between September 2023 and June 2024, 37 patients with cellulitis were treated with cefazolin-based regimens in HaH. Of these, 30 received cefazolin alone, and 7 received cefazolin with probenecid combination. Median age was 61 years and 76% were male. The sites involved were lower limb (89%), upper limb (5.4%), periorbital (2.7%), both upper and lower limbs (2.7%). Common risk factors were chronic venous insufficiency (30%) and eczema (19%). In the cefazolin alone group, median duration of IV cefazolin was 8 days. In the cefazolin-probenecid group, IV cefazolin was administered for median of 2 days, followed by 5 days of cefazolin with probenecid. Neither group reported readmissions or adverse effects. Exclusions from the probenecid pathway were primarily due to drug interactions (33%), clinical severity (20%), and weight (13%).

**Conclusions:** The cefazolin-probenecid pathway demonstrated good clinical outcomes without adverse effects, reducing the number of home visits. Expanding eligibility criteria could allow more patients to benefit from this approach.

Keywords: cellulitis, cefazolin, probenecid, Hospital-at-home

### HOSPITAL AT HOME FOR THE MANAGEMENT OF INFECTION DISEASES: PRELIMINARY EXPERIENCE WITH 18 PATIENTS IN TAIWAN

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** Taiwan National Health Insurance Administration launched the Hospital at Home (HaH) pilot program on July 1, 2024, provides intravenous antibiotic treatment for patients with pneumonia, urinary tract infections, and soft tissue infections at home or in nursing facilities. This case series reports 17 patients from WanFang Hospital who met the program's inclusion criteria. Through sharing these preliminary experiences, we aim to enhance our understanding of this innovative care model.

**Methods:** Physicians conducted in-person visits on the first and last days of treatment, with virtual consultations on the remaining days. Nurses made daily visits to the patients' homes or nursing facilities to administer antibiotics. Family members or caregivers were responsible for monitoring vital signs, using Internet of Things (IoT) devices to collect the data, which was then uploaded to a cloud platform for continuous monitoring.

**Results:** Eighteen patients were included in the study, with 9 residing at home and 9 in nursing facilities. Diagnoses consisted of pneumonia (12 patients), urinary tract infections (5 patients), and a soft tissue infection (1 patient). All patients completed their treatment within the designated days, and none required emergency home visits during the treatment period. Additionally, there were no hospital admissions or emergency department visits reported within 14 days after discharge.

**Conclusions:** The HAH program in Taiwan appears to be a safe and effective method for treating selected patients. It can serve as a measure to alleviate the healthcare burden on hospitals. Physicians should be familiar with the program processes to offer patients a viable alternative to hospitalization.

**Keywords:** Hospital at Home, Alternatives to conventional hospitalization, Emergency department Passed Admission

## HEMA HOSPITAL AT HOME: INSIGHTS FROM ONE CENTER ON IMPROVING HEMATOLOGIC PATIENTS' LIVES WITH AT-HOME CARE

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** A hematological perspective on the growing Hospital-at-Home (HaH) services within Public Health Care remains underexplored. Data comparing HaH with in-hospital care (IHC) worldwide indicates similar efficacy and safety, alongside enhanced patient quality of life and satisfaction, particularly for frail patients or those with reduced mobility or high infection risks.

**Methods:** We conducted a one-year retrospective analysis of patients referred by the Hematology Service to our HaH Unit, following pre-established collaborative protocols.

**Results:** In 2024, 64 patients were admitted to the HaH Unit for 167 episodes. Plasma cell dyscrasias (PCD) accounted for 26 cases (48%), followed by myelodysplastic syndromes/myeloproliferative neoplasms/acute leukemias (MDS/MPN/AL) in 22 cases (38%), and lymphoproliferative syndromes in 16 cases (25%). Mean age varied, the youngest group being PCD (66.7 years) and the oldest MDS/MPN/AL (80.2 years). Home interventions included follow-up after autologous stem cell transplants, transfusion support, palliative care (e.g., nutrition, pain management), active hematologic treatments (e.g., azacitidine, daratumumab, bortezomib, luspatercept) and clinical and analytical monitoring (e.g., tumor lysis syndrome during venetoclax titration). Healthcare education for patients and caregivers was also provided.

**Conclusions:** While HaH benefits many different oncohematological patients, standardized methods are needed to optimize patient selection and improve their quality of life by reducing hospital visits and travels, particularly for those with mobility, frailty or pain issues.

**Keywords:** Hematology, Hospital at Home, mobility or pain issues, Frailty, Quality of life improvement

### ESTABLISHING AN AT-HOME HOSPITALIZATION PROGRAM IN A CATALAN CENTER: MANAGING URGENT TRANSFERS AND READMISSIONS WITH

### **CLINICAL PRACTICE AND ADVANCES**

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**Background and Aims:** At-home hospitalization (AHH) is an increasingly used care model for hematological patients. Nevertheless, some patients develop complications that demand urgent hospital transfer. We describe the process involved for urgent readmissions and for identifying patients who required it.

**Methods:** Patient were included if received intensive chemotherapy or autologous hematopoietic stem cell transplantation, had an  $ECOG \le 2$ , lived within one hour by public transport from the hospital, had a 24-hour caregiver available, had an adequate cultural level and home environment.

**Results:** In case of an urgent transfer, we established a specific protocol in collaboration with the Servei d'Emergències Mèdiques (SEM) of Barcelona. Patients are instructed to contact the on-call hematologist or AHH physician if they experience warning symptoms. The hematologist will then coordinate with SEM to activate the urgent pathway. SEM will conduct an on-site assessment and provide feedback to the hematologist. Based on the patient's clinical condition, they will be transferred either to the ward or the intensive care unit via a rapid emergency pathway ensuring timely inpatient care. Since the program began in April 2024, 13 patients have been enrolled. Of these, 4 required activation of the urgent transfer protocol and were admitted to the ward for neutropenic fever.

**Conclusions:** The establishment of urgent transfer pathways is essential for the success of an AHH program. However, the lack of standardized circuits makes ensuring consistency and efficiency in patient care a continuing challenge. We have implemented one of several possible models to address this issue.

**Keywords:** Urgent Transfers, intensive chemotherapy, at-home hospital, Hematology, autologous stem cell transplant

### HEALTH PROFESSIONALS SURVEY ABOUT PERSPECTIVES ON REFERRAL TO A PEDIATRIC ACUTE HOME HOSPITALIZATION UNIT

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** Hospital at home (HAH) is a proven alternative to conventional hospitalization if a correct identification and referral of candidates is guaranteed. Professionals' knowledge of HAH, its characteristics and perceived strengths and barriers for referral, can contribute to the performance of the program. The aim of this study is to assess physicians and nurses' knowledge about HAH for acute patients in a pediatric hospital.

**Methods:** Single-center, descriptive, cross-sectional study using non-validated surveys designed for the study, distributed by corporate mail.

**Results:** In June 2024, 127 surveys were recruited, 72/127 medical staff, 55/127 nursing staff, with more than 10 years-experience in 63%. 91.3% were aware of the program, 73.8% had detected a candidate and 54.8% made a referral. From these, 96.7% considered it a beneficial experience for their department/patient and 98.9% would repeat. 44.6% had not feedback during admission, but 80.7% would have liked it and 73.6% considered it necessary. 84/111 participants would like to participate in management during HAH. Main reasons for considering HAH referral: improve patient/family quality of life (87.6%), reduce the duration of hospital admission (77.9%), avoid hospital admission (62.8%). Main reasons for discarding HAH referral: doubts about family's capacity for self-care (71.9%), reluctance/refusal of family to transfer (61.4%), doubts about adequate clinical management/home complications (49.1%). 96% of respondents considered HAH useful/very useful.

**Conclusions:** Respondents were mostly aware of HAH existence and functioning, with a high degree of satisfaction and with the main aim of improving the quality of life of patients/family. Most participants would like to continue participating in home management.

Keywords: Pediatric, Professionals survey, Pediatric HAH

### MIDLINE CATHETER PLACEMENT BY HOSPITAL AT HOME (HAH) STAFF FOR PATIENTS ADMITTED IN OUR UNIT

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** We frequently admit in our HAH Unit outpatients who require specific intravenous treatments or treatments lasting more than a week that cannot be administered peripherally, which is why we trained a nurse from our unit to place Midline catheters for these cases. We aim to describe the activation route, procedure and complications of midline placement by HAH personnel.

**Methods:** Descriptive, retrospective study of patients who have had midline inserted by HAH staff and then admitted in our Unit between January and August 2024.

**Results:** As we don 't own an ultrasound machine, the midline is catheterized at the outpatient clinic. The HAH nurse, upon receiving the request, demands a space in the outpatient clinic, once it 's confirmed, the patient comes from home, the midline is inserted and then goes back home. In the period reviewed, 7 midlines have been placed, 54.7% in the upper right arm, 45,3% in the upper left arm. There weren 't complications during the procedure or during treatment. 51.4% came from primary care or outpatient clinic, the rest from our own unit (28.4%) or the ER (14.2%). The majority received antibiotic therapy (71.4%), the rest received serum/electrolyte therapy. The average duration of treatments was 29.1 days

**Conclusions:** We didn 't have any complications during the placement or use of midline placed by our staff. As we manage the whole procedure, there 's practically no unnecessary waiting. Considering the experience presented, If we had the appropriate equipment, we could place them at the patient's home, avoiding unnecessary travel and guaranteeing an even faster response.

Keywords: Midline, Hospital at Home, Nurse

### CULTURE IS HOME AND HOME IS CULTURE

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** This presentation discusses the two-fold impact of entering a patient's home with medical technology and culture perspective of the patient. Each will influence the success of the medical intervention and patient compliance of the home plan of care. It can be a collision course of today's medical definition of care and century old care and treatment. It is crossing the threshold where the health care provider must become the cultural advocate and cultural broker. The success of home care depends on this approach if patient compliance and healthcare provider have a successful outcome for both.

**Methods:** Non-Applicable. Presentation based on previous research studies and clincal application in clinical practice.

**Results:** Non-Applicable. Presentation based on previous research studies and clinical experiences.

**Conclusions:** It is a cultural imperative that both the cultures of patients, providers, and health care organizations come together. The role of cultural broker and cultural advocate is this era's approach to improve patient compliance at home and the provider's therapeutic outcomes of the hospital at home.

Keywords: Culture Care, Cultural Advocate, Cultural Broker

# CONTINUING EDUCATION: A KEY FACTOR FOR QUALITY HOME HOSPITALIZATION CARE

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** The home care institution (IMAD) in the canton of Geneva provides care, assistance, support, and respite services to promote the home care of individuals while preserving their autonomy. It is made up of numerous teams, including a Home Hospitalization Center (CHAD).

Home care has become increasingly complex, and nurses are confronted with more demanding technical skills, particularly regarding central vascular access. To ensure patient safety, quality of care, and alignment with the latest evidence-based practices, the objective is to maintain, update, and harmonize nurses' skills in managing central vascular access.

**Methods:** • Identification of team leaders' and field workers' needs through informal interviews • Assessment of current skills and existing training among staff • Identification of various pedagogical approaches and evaluation of necessary resources in collaboration with institutional training coordinators • Review of available teaching materials on the market

**Results:** Development and implementation of two "technical skills" workshops: DAVI and PICCLine. During these workshops, staff update their theoretical knowledge through quizzes, then move on to practicing technical skills on mannequins. Each nurse participates once a year or more in both workshops, ensuring a regular update of their skills.

**Conclusions:** The workshops have enabled the updating of knowledge and the harmonization of practices. The identification of additional needs led to the creation of new workshops using a different pedagogical approach: "peer-to-peer workshops" focusing on the flushing of central venous lines.

To meet the needs of the home care system, IMAD has opened its training programs to other home care organizations.

Keywords: continuing education, nurses, central vascular access

### INNOVATION IN RESEARCH TRAINING FOR HOME CARE MULTIDISCIPLINARY TEAMS: A CASE STUDY IN LATIN AMERICA

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** Home health care faces challenges and knowledge gaps in Latin America, where collaboration among multidisciplinary teams is essential to address complex needs. The lack of standardised research training programmes limits the optimisation of these services regionally. Objective: To design and implement a research training programme for multidisciplinary home care teams in Colombia, focusing on methodology analysis, identification of research opportunities, and project formulation with development potential.

**Methods:** A case study examined the implementation of a research training programme developed by the Colombian Association of Home Health Institutions (ACISD). The programme included 40 hours (15h of self-directed learning; 25h of mentoring) delivered virtually in three phases: (1) conceptual introduction and project formulation, (2) mentoring for protocol design addressing local knowledge gaps, and (3) presentation and discussion of interdisciplinary proposals.

**Results:** Of 40 enrolled health professionals, 78% completed the programme with an average participation rate of 87% and a mean score of 9/10. Four research projects were developed on nutrition, telehealth, palliative care, and chronic wound management. Additionally, 98% of participants reported high satisfaction, highlighting strengthened technical skills, interdisciplinary collaboration, and practical knowledge application.

**Conclusions:** This educational strategy demonstrated the need for enhanced research competencies in home-based care, establishing it as an adaptable and scalable tool to improve evidence-based health care. It fosters high-quality clinical outcomes, multidisciplinary collaboration, technology integration, and regional practice expansion.

Keywords: Home Care, evidence-based health care, Latin America, health research

# BUILDING THE HOSPITAL AT HOME WORKFORCE WITH DIGITAL SKILLS EDUCATION AND TRAINING

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** The Hospital at Home (HaH) model redefines care delivery by shifting clinical services, staff, equipment, and advanced digital tools to patient homes, directly substituting for acute inpatient hospital care. Its success relies on a workforce skilled in integrating these components into home-based care environments. The Digital Skills for Health (DS4Health) project, a European Digital Skills initiative funded by the European Commission, addresses this need through a global, multidisciplinary education programme designed to equip healthcare professionals with the necessary skills to deliver hospital-level care at home.

**Methods:** A dedicated and innovative curriculum was developed based on a methodology of co-creation between all stakeholders. The process included mapping the existing situation, identifying stakeholder needs in sectors like academia, industry, and public health organizations, analyzing gaps, and formulating curriculum content and study tracks. The project uses the Out-Come Based Education-OBE model, focusing on the skills and knowledge students must accomplish in the workplace. Emphasis is placed on combining theory, practice, collaboration across academia, industry, and research.

**Results:** Through an alliance of six universities (RWTH Aachen University Hospital, Tel Aviv University, Institut Polytechnique de Paris, NOVA University Lisbon, Medical University of Vienna, and University of Ioannina), DS4Health develops a structured, scalable training programme addressing HaH-specific challenges like telemedicine, remote monitoring, real-time data integration, and cybersecurity.

**Conclusions:** By equipping the HaH workforce with essential digital competencies, DS4Health directly supports the transformation of hospitals to deliver acute-level care in patient homes, improving lives and advancing HaH implementation.

**Keywords:** Hospital at Home (HaH), Digital Skills, Education and Training, Workforce Readiness, interdisciplinary collaboration

### TOWARDS A NORDIC DIGITAL HEALTH EDUCATION IN HOSPITAL AT HOME: FINDINGS FROM A GROUP INTERVIEW STUDY

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** The transformation of healthcare and the unique challenges associated with implementing Hospital at Home models require healthcare professionals to develop new competences. In the current societal landscape, digital education plays a crucial role in facilitating this transition. To explore expectations and experiences among health scientists and educational platform designers of developing a Nordic digital health education in Hospital at Home.

**Methods:** An explorative qualitative design with group interviews was applied, with data collected at three different occasions during December 2023 to September 2024. A total of 31 participants from the NorDigHE-project group were included. Data were analysed using thematic analysis.

**Results:** Three main themes emerged from the analysis: Meeting the needs of healthcare transformation, focusing on aligning education with developing a care model. A Nordic mosaic project - building bridges between countries and cultures, emphasizing collaboration across diverse health systems and cultures and From vision to sustainable reality - education for the future, addressing practical strategies for creating long lasting education.

**Conclusions:** The development of digital education tailored to the evolving needs of Hospital at Home is necessary for improving care delivery. To ensure that the education is transferable and sustainable, the results demonstrated that it is essential to address differences in care delivery, including variations in healthcare and educational systems across the Nordic countries. By fostering collaboration and bridging cultural and systemic gaps, the project aligns with shared goals of supporting healthcare transformation and future education.

**Keywords:** experiences, international collaboration, sustainable healthcare, thematic analysis, transformational healthcare

# SUCCESSFUL INTERVENTION TO IMPROVE ADVANCE CARE PLANNING IN A GERIATRICIAN LED HOSPITAL AT HOME SERVICE.

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** Advance care planning (ACP) describes the process of discussing future plans between an individual and their healthcare provider, typically when approaching their last year(s) of life. We aimed to assess ACP engagement within our "Hospital@home" service, and assess the benefit of training and education.

**Methods:** Data was collected for all patients referred to @home in December 2023. Those appropriate for ACP had a Clinical Frailty Score (CFS) >=6, or a comorbidity with a prognosis of less than a year. Interventions included interactive seminars, and the creation of lanyards and posters. Data collection was repeated in June 2024. The catchment area is split into North and South, with interventions exclusively in the North.

**Results:** Data was collected on 136 and 133 patients in December '23 and June '24 respectively. Excluding those where ACP was not appropriate left n=93 at both points. Average age 81 years and CFS 6. ACP rates improved from 7 (8%) to 21 (23%) [p<0.001]. CFS was significantly associated with having ACP (OR 1.50; p=0.003), while age not (OR 0.99; p=0.766). There was no difference in ACP rates between the North and South at baseline. However ACP increased from 3(5%) to 17(24%) (p<0.001) for the North, with no significant change in the South [4(6%) to 4(6%); p=0.54].

**Conclusions:** The significant changes in the North catchment, which received the training and education highlights how ACP engagement was substantially improved through simple low-cost measures. We believe a culture shift amongst community services can be achieved, so ACP is routinely considered in appropriate patients.

Keywords: ACP, Frailty, teaching, Geriatrician

### WHAT IS REQUIRED WITH RESPECT TO HEALTHCARE PROFESSIONALS TO PROVIDE SAFE AND HIGH-QUALITY HEALTHCARE WHEN DELIVERING HOSPITAL AT HOME? A SYSTEMATIC REVIEW

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** The hospital-at-home treatment model transfers hospital-level care to the patient's residence. This shift presents new challenges in staff training and role expansion beyond traditional practice scopes. Denmark is on the cusp of a healthcare structural reform designed to forge a more unified and equitable system, transitioning more treatments from hospital settings to patients' homes or local health facilities. This systematic literature review aims to investigate experiences related to competencies, staff interactions, and professional support when healthcare professionals (HCP) administer Hospital-at-Home care.

**Methods:** We utilize the PICo framework to search relevant databases from September-November 2024. Additionally, reference checking and citation tracking will be employed to uncover further studies. We include studies in any language and research that incorporates qualitative data collection. The analysis within these studies must focus on the viewpoints of HCP providing care in hospital-at-home settings. Two independent authors will review the selected studies. Methodological limitations will be evaluated using the CASP checklist. Confidence will be assessed through GRADE-CERQual

**Results:** The initial findings of the systematic literature review are anticipated by early 2025. Current trends indicate a need for advanced training in telehealth technologies, interprofessional collaboration and effective teamwork, clear communication, coordinated care plans, and cross-silo dialogue, ongoing professional support, continuous education, training programs, mentorship, and peer support. The outcomes of this systematic literature review could lay the groundwork for creating guidelines to educate, train, and support the next generation of hospital-at-home HCP.

**Conclusions:** Evidence-based recommendations are necessary to develop relevant upskilling and professional support that help HCP adapt to the Hospital-at-home treatment model.

**Keywords:** Hospital-at-home, Healthcare Professionals, Competencies, Staff-to-Staff relations, Professional Support

# NEW WORK APPROACHES FOR SUPPORTING THE IMPLEMENTATION OF A HOSPITAL AT HOME MODEL IN SWITZERLAND

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** In 2023, a Hospital-at-Home (HaH) model was implemented and evaluated in Arlesheim, Switzerland. This transition from centralized hospital settings to decentralized home environments required significant team commitment and flexibility. To address these changes, strategies from the New Work sector were applied. This abstract provides initial insights into the implementation and the potential of new work tools.

**Methods:** A team member was initially trained in "The Loop Approach<sup>®</sup>" by The Dive (Berlin) an organizational development consultancy, to facilitate the transformation. The HaH team was gradually introduced to this approach and trained in new work methods, including communication training and structured, moderated meetings. These were divided into operational sessions for patient care and separate sessions for role definition and standard settings. The implementation phase was retrospectively analyzed using descriptive patient data and satisfaction levels collected via selfdeveloped questionnaires.

**Results:** The new work methods were consistently applied and are still maintained by the team, including weekly operational and structural meetings. From June to December 2023, 89 patients were treated, achieving high satisfaction rates (37 % response rate; all rated the care as good or excellent).

**Conclusions:** The HaH-program in Arlesheim appears successful. However, the specific impact of New Work elements remains unclear. Further research is needed to evaluate their contribution. The ongoing use of these methods suggests perceived effectiveness within the team and holds potential for improved coordination, communication, and transparency. Additionally, it may strengthen satisfaction of health care professionals through participation opportunities, essential for developing innovative care models and driving transformation in the healthcare system.

Keywords: New Work, Interprofessional collaboration, Transformation

# EXPANSION OF ACUTE CARE AT HOME TEAM (AC@H) – A QUALITY IMPROVEMENT (QI) PROJECT

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** The AC@H is a Consultant Geriatrician led Multi-Disciplinary Team, operational since 2014 that provides hospital level care for people in their own place of residence. Demand for the service exceeded capacity therefore a quality improvement project was undertaken to increase capacity by 50%

**Methods:** Sought guidance from QI team, engaged with key stakeholders, including patients and their carers. We process mapped current practices and we evaluated existing resources, staff and point of care testing. We developed an in-reach service to Emergency Departments in acute hospitals, increased multi-disciplinary recruitment and introduced virtual assessment

**Results:** In reach referrals increased by 113%. . Inappropriate referrals from hospital were reduced by 25%. There has been a 38% of increased accepted referrals overall

**Conclusions:** Overall our project has been successful. Utilisation of QI tools helped us narrow down the areas which we can positively impact and implement a change. Room for improvement remains and the project is ongoing, we plan to improve pathways between NIAS. We have also implemented a pilot for GPs to refer all person's over 65 with frailty directly to us to achieve our aim of 50%

Keywords: Quality Improvement, Capacity
# EDUCATING FOR THE FUTURE: EQUIPPING HEALTHCARE PROFESSIONALS TO CARE FROM A DISTANCE IN SCANDINAVIA

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** In line with global health care trends, the Scandinavian healthcare systems face challenges from an ageing population, an increase in chronic diseases and multimorbidity, a shortage of healthcare staff and structural changes resulting in fewer physical hospital beds. Hospital at home, i.e. the treatment and hospitalization of patients in their own home through the use of digital technologies, is being mobilized as one possible and productive response to these challenges. However, the use of digital technologies in health care also adds layers of complexity, new (often invisible) tasks and new forms of responsibilities to the clinical work of health care professionals, as well as to the responsibilities of patients and families. The project: Nordic Digital Health Education (NorDigHE), was initiated in 2023 with a collaboration between Danish, Norwegian and Swedish partners, aims to address these challenges through the development of an innovative online education that addresses the clinical, patient-centered, organizational and reflexive skills as well as the 'digital mastery' needed by healthcare professionals to work with hospital at home in Scandinavia.

**Methods:** A qualitative and participatory methodology was used in workshops engaging healthcare educators, healthcare professionals and students.

**Results:** Five themes were identified as essential to prepare health care professionals to engage competently in hospital at home and thus be prepared for the predicted future of healthcare.

**Conclusions:** Rather than general conclusions, in this paper, we will present the knowledge generated so far by our ongoing collaborative work with the online education, our participatory methodology as well as the identification of the five themes.

Keywords: Education, Hospital at Home, Participatory methodology, Scandinavia

# CLINICIAN PERCEPTIONS ON THE ROLE OF APN IN HOSPITAL-AT-HOME: A QUALITATIVE STUDY

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** Hospital-at-Home (HaH) is an emerging care model in Singapore and globally. The role of Advanced Practice Nurses (APNs) in HaH is recognized for its potential to enhance care outcomes. However, the integration of APNs into HaH is still nascent in Singapore. Additionally, there is scarcity of literature addressing how to optimize APN contributions in HaH. This study aims to explore the perspectives and recommendations from HaH clinicians regarding the role of APNs within a program that has integrated APNs into its team.

**Methods:** An exploratory qualitative survey design was employed. A purposive sample of 5 doctors and 14 nurses was recruited from the first HaH program in Singapore to include APNs.

**Results:** Six key themes emerged: i) Bridge between professions; ii) Increased value of care in HaH—augmenting the medical workforce while providing holistic patient care; iii) Daily guidance and support for nurses; iv) Critical role in nurse training; v) Desire for more autonomous practicing rights and decision-making for APNs; and vi) Recommendations to expand APN competencies and skillsets. Suggested improvements include formalizing HaH in APN training and rotating APNs from various specialties into the program.

**Conclusions:** The APN role in HaH can enhance care quality and support both medical and nursing teams. These findings advocate for the development of more APNs in HaH and provide valuable insights into fostering this role within Singapore's pioneering care model. Future research should evaluate the specific effects of APNs on patient outcomes, healthcare costs, and overall satisfaction within the HaH model.

**Keywords:** Advanced Practice Nurse, Nurse Practitioner, Role development, Hospital at Home, Education

# THE HOSPITAL AT HOME TEAM; THE PLATYPUS OF THE HEALTHCARE KINGDOM

# EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** What constitutes an ideal HaH care team? Just as the platypus is seemingly built from mismatched parts, HaH teams are best built from a unique combination of skillsets. HaH programs cannot copy/paste the brick-and-mortar staffing structure into the home environment and expect success. Rather, organizations must draw on the strengths of the healthcare ecosystem in each market to create the ideal HaH team. -Describe the unique philosophy of care that a workforce must have to provide comprehensive, person-centered acute hospital care at home (AHCAH) - Identify the fundamental skills needed to deliver AHCAH -Emphasize the need for flexibility in adapting traditional healthcare roles

**Methods:** Two U.S. hospital at home programs compare staffing models and outcomes to observe common skills and characteristics that stimulate success. Differences in workforce structure are also evaluated. Authors collate these findings to create an actionable list of skills and philosophies for building a HaH workforce.

**Results:** When building a HaH team, local and regulatory factors will affect the final structure. No two HaH programs in the U.S. are staffed the same way, but most deliver similar outcomes by fulfilling the core functions. This must be accomplished through creative use of existing workforce.

**Conclusions:** There is no perfect care team structure to achieve excellence in care for HaH programs. Instead, a focus on defined skillsets can achieve this goal. Each program must evaluate their needs, local workforce, and training capabilities. Like the platypus of the healthcare kingdon, each HaH team will be formed by uniquely adapted parts to achieve success.

Keywords: Skills, Adaptability, Flexibility, Staffing, Strengths

# CREATING A COMMON SKILLS PLATFORM: AN ESSENTIAL ASSET FOR HIGH-PERFORMANCE SPECIALIST TEAMS IN OUR HOSPITAL-AT-HOME (HAH ) CENTRE

## EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** Four teams provide care in our Hospital-at-Home (HAH) Centre: oncology, paediatrics, adults, and a replacement pool. The four teams also provide home-assisted nursing care for patients from the other teams. To guarantee the quality of patient care, it is essential to have an established, shared skill set to ensure efficient and harmonious collaboration. This foundation is acquired during initial training and ongoing professional development and can guide continuing education initiatives.

**Methods:** The use of nursing procedures in the HAH field, employee self-assessments, and analyses needs for appropriate, targeted training and skills maintenance. Thanks to our expertise, we have identified the knowledge, skills, and know-how essential for obtaining a high standard of objectives and successful missions across our specialised teams: technical care, assessment and establishment of diagnoses, care project design and management, clinical pathways, inter-professional communication and coordination, and support for patients and their families.

**Results:** The definition of the shared skills base and the actions to be carried out in the context of mutual aid. The design of training and measures required for the maintenance of nursing skills, continuing professional development, and establishing patient and family support plans.

**Conclusions:** By investing in targeted training, ensuring continuous professional development, and emphasising best practices, the teams can work coherently and efficiently while remaining at the forefront of their expertise. Thanks to this Common Skills Platform, care professionals can optimise the efficiency of defined tasks within different teams. This approach will enhance the HAH's performance, providing safe, high-quality patient care 24 hours a day.

Keywords: training, Professional development, Skills, Quality

# ENCOURAGING NURSE INVOLVEMENT IN HOSPITAL AT HOME PROGRAMS: A CASE STUDY FROM TAIPEI CITY HOSPITAL

### EDUCATION, TRAINING AND WORKFORCE

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**Background and Aims:** Taipei City Hospital has adopted the Hospital at Home (HAH) model to enhance care for various patient groups, focusing on continuity and quality of care. This study describes the HAH models implemented: Model A for home patients, Model B for institutional patients, and Model C for emergency care patients, with an emphasis on the strategies used to encourage nursing staff participation.

**Methods:** The HAH program differentiates care based on patient location and needs. Model A involves home care nurses providing daily antibiotic treatments at the patient's residence. Model B integrates home care and institutional nurses for treatment and follow-up tasks, while Model C utilizes emergency nurses for immediate care under the supervision of emergency physicians. The hospital introduced a revised compensation scheme, where HAH visits are valued at twice the points of standard home care visits to incentivize nurse participation. Professional development courses were also provided to support nurses.

**Results:** Since July 1, the hospital has managed 32 HAH patients, predominantly under Model B. The incentive system has received positive feedback from participating nurses, indicating motivational success. Continuity of care was maintained across all models, with primary nurses managing the care from Monday to Friday.

**Conclusions:** The HAH models at Taipei City Hospital improved nurse engagement and care continuity. Incentive measures and professional development effectively supported nurses amidst HAH challenges. As the Director of Nursing, ongoing efforts focus on securing additional rewards from hospital administration to sustain these efforts. This model highlights the importance of well-structured incentives and support systems for HAH success.

Keywords: HAH models, Home Care, incentivize

# ACUTE STEP-UP CARE FOR PAEDIATRIC COMPLEX PATIENTS - ADVANCING ACUTE CARE AT HOME

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** The Evelina Childrens hospital at home service developed an innovative pathway to step up care and support children with long-term conditions by delivering specialist nursing care to them in their homes, which due to their complexity, often resulted in Emergency Department attendance, bypassing primary care and often requiring hospital admission to high dependency (HDU).

**Methods:** ED attendance data over 1yr was analysed from January to December 2019 for complex children known to the local Children's Communiy Nursing Service. Of the 95 ED attendances the primary reason for presentation was respiratory symptoms. Of the 56 patients admitted to hospital, 9 were for observation only and 2 for IVAB's. Within current CH@h admission criteria these may have been preventable and eligible for referral into the service.

**Results:** The pathway was launched in 2021 and data was analysed for evaluation June 2021 to June 2022. Overall 20 referrals from parent or GP were made to the CH@h with 130 contacts for clinical assessment and intervention recorded. Its estimated this saved 106 HDU bed days as all admitted CYP had a ventilatory requirement +/- trachestomy.

**Conclusions:** This is an innovative and pioneering new initiative providing early clinical intervention to manage and support children with complexity during an episode of sub - acute respiratory illness in the home environment, where traditionally they would have been admitted to an HDU setting. This pathway demonstrates the unique capacity the hospital at home model offers in changing how healthcare can be delivered, enabling early intervention and prevention of hospital admission.

**Keywords:** admission avoidance, Early Discharge, Childrens hospital at home, acute complex pathway, Early intervention

# HOME ADMINISTRATION OF IV ZOLEDRONIC ACID VIA COMMUNITY RESOURCE TEAMS (CRT) IN CAERPHILLY, WALES

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Zoledronic acid, a bisphosphonate used primarily for treating osteoporosis and other bone-related conditions, traditionally requires hospital visits for administration, which can be burdensome, especially for frail older patients. The administration of intravenous (IV) Zoledronic acid at home via Community Rapid Response Teams (CRT) represents an innovative approach to enhance patient care and accessibility, while offering significant benefits to both the patients and the healthcare services.

**Methods:** CRT team typically composes of highly trained nurses and doctors, equipped to handle potential adverse reactions promptly and effectively, ensuring patient safety. This ensures high quality immediate care, maintaining the standards of good medical practice. In Caerphilly, our team has treated several patients without any complications, using a thorough, easy-to-use checklist process developed by our pharmacists. This checklist helps deliver prompt care in a safe and user-friendly manner.

**Results:** This approach enhances patient convenience and comfort, allowing them to receive necessary treatments without the need to travel, thereby reducing the physical and emotional distress associated with hospital visits. It minimises exposure to hospital-associated infections, an essential consideration for immunocompromised individuals. It can lead to improved adherence to treatment regimens, as patients are more likely to continue with therapy delivered in the comfort of their homes.The reduction in hospital visits also alleviates the burden on secondary care facilities, allowing resources to be allocated more efficiently.

**Conclusions:** Administering IV Zoledronic acid at home via CRT not only enhances patient convenience and safety but also supports better healthcare resource management, potentially leading to improved treatment adherence and overall patient outcomes.

**Keywords:** Service Innovation, Frailty at Home, hometreatment, patientsafety, Hospital@Home

# EMPOWERING HIGH-RISK PREGNANT WOMEN: A NEW HYBRID MODEL FOR HOSPITAL AT HOME

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** This study investigates a novel hybrid model of Hospital at Home (HaH) for high-risk pregnant women with severe maternal or fetal complications, replacing traditional prolonged hospital admissions for intensive monitoring until delivery. The HaH model, operated in Sheba Medical Center since October 2023 with 79 patients by December 2024, integrates daily remote visits by physicians and midwives, tele-home monitoring, and bi-weekly physical hospital visits. Remote cutting-edge technologies enable remote assessments of vital signs, glycemic control, fetal heart tracing, and fetal ultrasound.

**Methods:** The ongoing qualitative study involves observations and interviews with patients and staff to examine the design of the new healthcare service and learn from the women's perspective.

**Results:** Preliminary results show potential for significant transformations of intense high-risk pregnancy care. The new model shifts relations between women and caregivers, alters professional practices, and empowers women through increased involvement, responsibility, and a sense of choice. Telemedicine technologies for selfmonitoring, which requires learning and patience, gave women greater control over their situation. HaH allows women to maintain family life and motherhood, continue their work or studies, reduce stress and improve sleep quality compared to hospital stays. In some cases, women reported that HaH also enhanced their ability to manage Post-Traumatic-Stress-Disorder symptoms related to previous pregnancies and develop a stronger emotional connection with the fetus.

**Conclusions:** HaH for High-Risk Pregnant women offers a promising alternative to prolonged hospital admissions, empowering women while maintaining quality of care. Further research is needed to explore the scalability and management challenges of the new model.

**Keywords:** Hospital at Home, Maternal-Fetal Medicine, Women's Health, Hybrid Model, telemedicine

# REMOTE PEDIATRIC HOME CARDIAC MONITORING POST-SURGERY FOR CONGENITAL HEART DISEASE

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Home environment promotes better recovery for children. Following the paradigm shift during the Covid-19 pandemic towards home hospitalization, we developed a novel model for remote Pediatric Home Cardiac Monitoring. Shortly after heart surgery, the child is discharged home and remains under remote supervision using technologies for remote care. Before hospital discharge, parents receive equipment training, emergency situations guidelines and 24/7 phone for medical advice. During the follow-up period, daily remote visits are conducted by Pediatric Cardiologist & Pediatric Cardiac Intensive Care Unit nurse. Additional visits are performed if needed. Our aim was to examine the quality of care and its contribution to the child's recovery

**Methods:** Study included pediatric patients who underwent heart surgery and joined the program. The children were followed up remotely until physical clinic visit, when parents were asked to fill a satisfaction survey.

**Results:** During 24 months, 122 families were offered participation, 116 joined and 67 answered the survey. Mean child age was 2.8yrs, mean follow-up period was 6.9 days. Very high levels of satisfaction were recorded. Six patients needed re-admission. Five potential re-admissions were avoided due to remote follow-up.

**Conclusions:** This novel advanced model provides improved continuity & quality of care for discharged patients, accelerates child's recovery, increases safety and sense of security and decreases re-admissions. Remote home monitoring has the potential to reduce prolonged hospitalization risks and improve utilization of hospital resources.

Keywords: Remote monitoring, pediatrics, post-surgery

# THE EMERGENCY DEPARTMENT AND HOSPITAL AT HOME CAN WORK TOGETHER TO CARE FOR ELDERLY AND DISABLED INDIVIDUALS IN A NOVEL WAY

# HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** A major challenge of caring for the elderly in the emergency department (ED) is providing efficient care without missing a serious medical condition while avoiding, if possible, the harms of hospitalization.

Many multidimensional geriatric models have been used in the last decades to facilitate early discharge from the ED, possibly reducing hospital admissions and related complications. We implemented GIROT in DEA (Prompt Hospital Community intervention in the ED) in three hospitals in Florence's district (ASL), Italy. Aim of this study Is to describe the characteristics and outcomes of patients referred to this project.

**Methods:** A geriatrician is on duty in ED every morning providing comanagement with ED physicians and taking charge of patients in boarding.

Eligible patients are very old, affected by an acute or exacerbated chronic disease, disabled or affected by dementia.

Patients undergo a comprehensive geriatric assessment with the aid of professional figures such as physiotherapists, social workers, and palliative care physicians. The most appropriate care pathway is established after having reached a diagnosis and started treatment.

**Results:** In 2023, 3869 patients were managed, mostly females (2383, 61.5%). 1800 were aged 80 - 89 years (46%), 1530 were aged 90 - 99 years (30%), and 48 were aged 100 or more (1.2%). 78% presented with an urgent condition and 11% with an emergency. 78% were discharged to Hospital at Home, only 20% were hospitalized.

**Conclusions:** The presence of a geriatrician in the ED reduces boarding and hospitalization of elderly patients, with the support of GIROT, which is crucial for home re-admission.

Keyword: Hospital at home, Early discharge, comprehensive geriatric assessment

# THE ROLE OF HOSPITAL AT HOME FOR PEOPLE WITH CONCOMITANT NEEDS IN PALLIATIVE CARE AND ACUTE TREATMENTS: A MIXED METHODS STUDY

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Hospital-at-Home (HaH) provides episodic, hospital-level acute care, while home-based palliative care offers continuous support. For patients with high palliative needs and acute crises, HaH plays a key role by collaborating with palliative care. This study examines HaH's integration with palliative care to optimize outcomes.

**Methods:** This mixed methods study involved a focus group with healthcare providers on HaH integration in August 2024. In September, an expert panel will review collaborative models, and in October, a co-design workshop with patients and caregivers will gather input. This approach incorporates both professional and patientcaregiver perspectives.

**Results:** The focus group discussions revealed that time-limited trials are essential for balancing acute treatments with palliative care, allowing short-term interventions while maintaining the option to transition to comfort-focused care. Participants also highlighted the importance of future care planning to align treatment goals across medical teams, patients, and families. Additionally, discussions emphasized the challenges faced by healthcare providers in managing non-cancer patients, whose conditions are often unpredictable, making it difficult to determine the optimal timing for initiating palliative care. The integration of remote monitoring technologies was also seen as valuable in supporting symptom management and providing emotional reassurance to both patients and families, though concerns remain regarding regulatory issues and technology accessibility.

**Conclusions:** HaH bridges acute and palliative care through time-limited trials and future care planning, addressing the unpredictability of conditions among people with

multimorbidity. Remote technologies further enhance care, and insights from upcoming expert panels and co-design workshops will refine its application.

**Keywords:** Hospital-at-home, palliative care, uncertainty, time-limited trials, future care planning

# INTEGRATING HIGH TOUCH AND HIGH TECHNOLOGY MODEL: A DUAL-APPROACH HOSPITAL-AT-HOME MODEL FOR PERSONALIZED AND TECH-ENABLED CARE TO OPTIMISED LENGTH OF STAY

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** With the increasing demand for hospital services and the rising cost of healthcare, HaH programs offer a cost effective alternative to traditional inpatient care, leverages on advancements in technology while maintaining a personalised, compassionate care experience.

These models leverage a combination of technology and physical visit supported by allied healthcare team and community team to cater to different patient needs. Aim:To evaluate and present a novel model of care for HaH programs integrating high-touch and high-tech elements to enhance patient outcomes.

**Methods:** High-Tech: Utilization of digital health platforms, remote patient monitoring (RPM), and telehealth consultations to ensure real time data collection and dynamic treatment adjustments. Patients in this group are more tech-savvy with Clinical Frailty Scale (CFS) less than 4.

High-Touch: Regular in-person visits by healthcare professionals, including nurses, allied health (physiotherapist, occupational therapist, medical social worker and speech therapist) and physicians, to provide hands-on care, emotional support and comprehensive assessments. Patients usually have complex medical issues with CFS more than 4.

**Results:** Initial implementations of high-touch and high-tech model has demonstrated improvements in patient outcomes, optimizing ALOS, lowering healthcare cost while ensuring quality outcome.

No. of Patients	Jul'24	Aug'24	
High Touch	38	38	
High Tech	35	46	
Before Implementation	Jul'23	Aug'23	Average
ALOS	4.3	5.1	4.7

After Implementation	n Jul'24	Aug'24	Average	Cost savings
ALOS				
High Touch	4.7	3.8	4.3	9%
High Tech	3.5	3.2	3.4	28%

**Conclusions:** The High-touch and High-Tech model represents a promising advancement in Hah by merging technology with compassionate care, improving clinical outcomes and overall patient experience

Keywords: high-touch, high-tech, Hospital-at-home, dual approach, tech enabled

# EXPLORING PRE-EMERGENCY CARE CHALLENGES AND INNOVATIONS IN SINGAPORE: A QUALITATIVE ENVIRONMENTAL SCAN

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Background: Emergency departments (EDs) face challenges with overcrowding, lengthy wait times, and cost issues. Hospital-at-Home (HaH) and Pre-Emergency Care (PEC) innovations offer opportunities to decentralize care and ease ED pressures. However, PEC innovations are still emerging in Singapore, and HaH has only recently been mainstreamed. A qualitative study is needed to explore potential PEC innovations that can effectively redirect patients from EDs to more appropriate care settings, and to examine their integration with HaH. Aim: This descriptive qualitative study aims to highlight PEC innovations that enhance resource allocation, direct patients to appropriate care, and reduce ED crowding.

**Methods:** A descriptive qualitative design was employed. Through purposive sampling, 22 participants (healthcare and SCDF leadership, ED clinicians, and first responders) were recruited. Semi-structured interviews were transcribed using Trint and thematically analyzed via Braun and Clarke's six-step inductive approach with Atlas.ti.

**Results:** Four themes emerged: 1) Patient profile suitable for alternative care pathways, 2) Considerations of PEC interventions, 3) Operational enablers, and 4) Policy and leadership levers.

**Conclusions:** Conclusion: Virtual emergency departments, virtual extended diagnostic units, and community-based tele-triaging are viable PEC strategies to redirect patients from EDs to appropriate care. Both PEC and HaH rely on telehealth, which can streamline the transition of stable patients from pre-hospital care to HaH, reducing unnecessary ED visits. Tele-triage and virtual EDs can further support HaH by identifying patients suitable for HaH care early. These innovations in PEC, alongside HaH, can help alleviate ED pressures and ensure timely, appropriate care for patients.

**Keywords:** pre-emergency care, strategies, perceptions, experiences, qualitative primary study

# CAREGIVER EXPERIENCES WITH HOSPITAL AT HOME IN U.S. PROGRAMS: A QUALITATIVE STUDY

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Hospital at Home (HaH), an alternative to hospital-based care, continues to expand across the US. While the caregiver role is of great interest, little is known about their experiences. This is the first qualitative study, to our knowledge, examining caregiver experiences with HaH in a national sample.

**Methods:** Beginning October 2023 (and ongoing), we conducted semi-structured interviews with caregivers via Zoom lasting 30-60 minutes, recruited through the HaH User's Group, a national collaborative focused on implementation. This analysis consists of rapid strategies including systematic development of analysis templates, their synthesis to identify preliminary themes, and group consensus to ascertain meaning.

**Results:** To date, we completed 13 interviews with spouses, adult children, and grandchildren representing 5 programs (5 NE, 7 MW, 1 SE). 92% were female and 85% white. The mean age is 68 (range: 57-83). Program duration ranged from 3 days to 1 month. Overall, participants felt positive about HaH, reporting they would repeat the experience. Main benefits include: convenience, patient goal alignment, high quality care, and improved patient outcomes compared to brick and mortar experiences. Caregivers reported that providers were reliable and communicative. Yet, participants described lacking communication about caregiver roles and expectations, and desired additional information. Caregivers also reported needing more clarity about the timing of visits, tasks and procedures. They suggested that HaH may be more challenging to implement in contexts of greater caregiver strain or higher patient acuity.

**Conclusions:** While caregivers generally reported positive HaH experiences, clearer and more explicit communication about the caregiver role could improve their experiences.

Keywords: caregiving, implementation evaluation, Hospital at Home

# BENEFITS OF VIRTUAL WARD DIGITAL PATHWAYS FOR CARE HOMES PATIENTS: PROOF OF CONCEPT.

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** We aimed to implement a fully digital virtual ward acute care pathway in high ambulance call-out care homes in South East London to reduce hospital conveyance rates. Additionally, we incorporated a holistic frailty assessment guided by an Elderly Care specialist.

**Methods:** Our "hospital at home" team, comprising GPs, advanced nurse practitioners, paramedics, and a frailty consultant, used digital technology from Doccla to monitor care home patients. Nursing staff were trained to use digital kits, including blood pressure cuffs, thermometers, and tablets for communication. Patients were monitored for two weeks and received mobile diagnostics such as ECGs, X-rays, and echocardiograms. Based on their conditions, patients were placed on pathways for heart failure, COPD, diabetes, or general frailty. An Elderly Care Specialist ensured holistic care with proactive medication adjustments, blood tests, and Advanced Care planning. Feedback was collected from staff and patients.

**Results:** We onboarded 125 patients from 719 care home residents over six months, aged 78-98, with high acuity and multi-morbidity. All patients received holistic reviews. 34% were on the heart failure pathway, 20% on COPD, 1% on diabetes, and 45% on the general frailty pathway. Only 19% required additional face-to-face visits, and only 4 patients were conveyed to the hospital, a significant reduction from the previous average of 24 (p<0.05). Feedback was highly positive from both staff and patients.

**Conclusions:** Our digital-first remote monitoring and holistic care approach significantly reduced hospital conveyance rates in vulnerable populations. Improved digital literacy among nursing home staff also enhanced trust in technology, leading to the program's planned expansion

Keywords: Care homes, Virtual Ward, Care pathways, Remote monitoring

# IMAD CARE MODEL FOR CHILDREN IN PALLIATIVE CARE : PATIENT CARE AND FAMILY RESPITE SUPPORT

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Some families would like their child in an end-of-life situation to benefit from palliative care at home. To meet this request, the pediatric HAH team is contacted by the Geneva University Hospitals (HUG) while the child is still hospitalized, to plan care, medication, and respite care when it returns home.

**Methods:** The care, therapies (both prescribed and anticipatory), and the child's discharge are jointly planned by the hospital services and the IMAD liaison nurse. Once the child is home, the pediatric HAH team nurses take over, providing all necessary care. They also ensure, along with Community Health and Care assistants (ASSC), family support through respite services.

The nurse, in a coordinated approach, mobilizes the network (occupational therapist, social worker, etc.) to address the identified needs.

**Results:** Two children and their families were able to experience palliative care, in an end-of-life situation, at home in 2023 (oncological situation). The services provided included nursing care (enteral nutrition, pain management, mobility assistance, and hygiene care), complemented by respite care (sibling or patient care, housekeeping and meal preparation, and accompaniment to medical appointments).

**Conclusions:** The pediatric HAH team's approach, which combines nursing care with respite care, has proven to meet the families' requests and has been appreciated. It highlighted the necessity of good anticipation, strong network collaboration, and significant adaptability from the team.

Keyword: IMAD, pediatric palliative care, respite care, HAH, home

# A NURSING HAH TEAM: THE GENEVA HOMECARE INSTITUTION MODEL (IMAD)

# HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Four teams provide care in our HAH Centre (CHAD): oncology, pediatrics, adults and a replacement pool. The special feature of this HAH is that it does not employ physicians or pharmacists. It relies on hospital and private physicians, as well as a hospital pharmacy at home and community pharmacies. Nurse ensure coordination with partners and patients.

**Methods:** Potentiating collaboration with all Geneva's health and social care players and building on the existing organization within the Geneva homecare institution (IMAD). Optimization of team collaboration and case management with our medical and pharmaceutical partners: creation of specialized coordination and liaison positions. Establishment of collaborations in terms of training and clinical itineraries with our main partners, and structuring of our organization.

**Results:** Establishment of an organization and coordination system in collaboration with our partners, guaranteeing: - Efficient delivery of services (responsiveness, skills, training, etc.) - Follow-up identical to hospital follow-up, with a strong link to hospital practitioners. - The creation of an oncology care pathway between hospital and home, with a pediatric care pathway in progress.



**Conclusions:** By rethinking our organization and maximizing coordination between the various players in the canton of Geneva, we can deliver services usually provided in

hospital in a safe manner, guaranteeing a continuum of care. We are now able to provide comprehensive 24-hour care, both in terms of medical care (relayed by private physicians, teleconsultation and telephone coordination) and nursing care.

**Keyword:** organization/HaH model/Quality

# HOME, BUT NOT ALONE: TRANSFORMING PALLIATIVE CARE SERVICES WITH HOSPITAL IN THE HOME

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** In the Australian setting, most patients with palliative care needs are managed by community palliative care (CPC) services. In some cases, existing models are unable to meet complex needs, and patients may require hospital-level or hospital-based interventions. In response to this clinical need, Monash Health established a Hospital in The Home (HITH) focused palliative care service to facilitate home based care for patients needing higher acuity management, and to optimise transitions in care. Our model augments traditional community based palliative care with a hospital governance framework and clinical services.

Three service streams have been established under our HITH/Palliative Care model. The first service stream provides care for patients with recurrent pleural effusions or ascites using tunnelled intra pleural/peritoneal catheters (IPCs). This allows for symptom management at home while minimising the need for hospital admissions. The second service stream provides a rapid clinical response for patients at the end of life. Elastomeric infusers are used to provide symptom relief at home until CPC have capacity to take over care. Provision of end of life care through our HITH model aims to reduce Emergency Department presentations and expedite transitions home from hospital wards. The third service stream provides specialist management of patients with complex cancer pain who would otherwise require admission to a physical hospital setting.

Our HITH/Palliative Care service challenges traditional models; the augmentation of hospital and community services has allowed for the provision of higher acuity home based care for patients with complex palliative needs.

Methods: Abstract Only

Results: Abstract Only

Conclusions: Abstract Only

Keywords: HITH, Hospital In The Home, Supportive Care, palliative care

# OUTCOMES OF COMPREHENSIVE GERIATRIC HOSPITAL AT HOME IN CATALONIA

# HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** The Hospital at home (HaH) model, based on comprehensive geriatric assessment and multidisciplinary care (HaH-G), offers a safe, effective alternative to conventional post-acute care hospital admission for older adults, preventing geriatric syndromes and functional decline. We aim to compare patient characteristics and outcomes between HaH-G and conventional post-acute admissions over the past five years.

**Methods:** This retrospective cohort study used data from the Public Data Analysis for Health Research and Innovation (PADRIS) program in Catalonia, including individuals admitted to HaH-G from 2018 to 2023. We compared the patient case mix between HDOM-GI and post-acute admissions regarding sociodemographic characteristics, comorbidity, and frailty. Outcomes such as home discharge and "days at home" (days not in a hospital or nursing home within 6 months) were evaluated using propensity score matching.

**Results:** From January 2018 to December 2023, 1180 individuals (56% women) were admitted to HaH-G, representing 10,07% of post-acute admissions. HaH-G patients were older [mean age 82.8 (SD: 10) vs.79.5 (SD: 11.5)] and frailer (83% vs. 75.8% frail based on the eFRAGILCAP index, p <0.0001). A propensity score, based on sociodemographic data, socioeconomic status, comorbidity (GMA index), frailty, and recent hospitalizations, selected a matched sample of 705 episodes of post-acute admissions. HDOM-GI patients had higher home discharge rates (85.3 vs. 72.8%, %, <p 0.001) and similar percentage of "days at home" (50.5% vs. 45,8%, p 0.72).

**Conclusions:** In our sample, comprehensive geriatric Hospital at Home appears as safe and effective as bed-based post-acute care.

Keywords: Hospital at Home, aging, post-acute

# SURVIVAL OF PATIENTS WITH HEMATOLOGIC NEOPLASMS IN A HOSPITAL-AT-HOME PROGRAM

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Given the prolonged inpatient care (IC) required for treating hematologic neoplasms, which often leads to complications and hospital overcrowding, alternative care models like Hospital at Home (HaH) have emerged. This study evaluates the outcomes of patients with hematologic neoplasms receiving care through the HaH program in Bogotá, Colombia.

**Methods:** We conducted an ambispective cohort study comparing HaH and IC, analyzing survival, readmission rates, and infection frequency from January 2020 to April 2023, with a six-month follow-up for both models.

**Results:** The study included three hundred thirty-one patients, with one hundred twenty-seven receiving HaH care and two hundred five treated in the hospital. The median age was fifty-eight, and the most common diagnosis was non-Hodgkin's lymphoma. Most patients had significant comorbidities, as measured by the Charlson Index ( $\geq$ 3). Infections were more common in the IC group (thirty-six percent) compared to HaH (nineteen percent), but the difference was not statistically significant (p=0.08). Readmission rates were similar between the two groups, with forty-seven percent in HaH and forty-two percent in IC (p=0.085). At six months, overall survival rates were seventy-eight percent, with no significant differences in mortality, except for higher mortality in the HaH group for patients with multiple myeloma and chronic myeloid leukemia. This may be due to the frailty and lower functional status of those eligible for home care.

**Conclusions:** The study suggests that HaH is a safe and effective alternative to traditional inpatient care for hematologic neoplasms, particularly in resource-constrained settings.

Keywords: hematologic neoplasm, Hospital at Home, inpatient care, survival

# A THEORETICAL FRAMEWORK OF HOME-BASED PROFESSIONAL NURSING PRACTICE

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

### Susan Hinck

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**Background and Aims:** An expert hospital clinician is not an expert in home-based care until the clinician has experience providing care in the home. Home-based care requires a unique set of knowledge and skills. The Hinck Framework of Home-Based Professional Nursing Practice describes how home-based practice is different than in facilities or ambulatory primary care. Six concepts (primacy of home, patient authority, patient self-management, caregivers as collaborators, interprofessional clinical team collaboration, nurse autonomy) are building blocks in four relational statements to describe the experience of patients in their homes and interactions with providers. 1. The patient's beliefs, habits, and self-management actions are shaped by personal meaning of home and the physical home environment. 2. The patient has ultimate decision-making authority over health-related behaviors in the home. 3. Home care includes interprofessional teams to provide person-centered care from multiple perspectives and skill sets that maximizes self-care ability. 4. The nurse is autonomous when alone in the home with the patient/caregiver and has primary responsibility for holistic assessment and intervention.

**Methods:** A literature review identified published models of home care that explained aspects of home-based nursing practice. In contrast, the Hinck Framework provides a comprehensive description of nursing practice centered on the patient in the home.

**Results:** Clinicians must shape their interactions with patients and caregivers acknowledging that each home setting is different and requires adjustments for that individual.

**Conclusions:** Knowledge of this framework can help nurses maintain the integrity and purpose of their role as well as inform education programs and organizational structures.

Keywords: Home Care, Home-Based Care, theoretical framework, nursing practice

# SUPPORTIVE CARE AT HOME PROGRAM FOR PEOPLE LIVING WITH AMYOTROPHIC LATERAL SCLEROSIS AT HOME: KOREAN HOSPITAL AT HOME PROGRAM

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** As the disease progresses, people living with amyotrophic lateral sclerosis (pALS) becomes difficult to move due to muscle weakness and various supportive care equipment for nutritional and respiratory support. This study aims to develop hospital at home (HaH) program for pALS in tertiary hospital in Korea.

**Methods:** The target population is pALS who have difficulty in moving, but want to stay at home. A neurologist, homecare physician, home-visiting nurses, and social worker came together to develop a HaH program suitable for target population.

**Results:** SupporTive Care At Home (STAH) program is a multidimensional and integrated home-based supportive care program. The STAH program is based on a specialized home-based medical care team comprised of physicians, nurses, and social workers. The STAH program provides the following: 1) initial assessment and education for pALS and their caregivers, 2) initial home visit by physician and nurses, 3) regular home visits by nurses, 4) telephone contact access for daytime communication, and 5) monthly multidisciplinary team meeting. During the first visit, physicians and nurses evaluate the home environment and establish a home management plan. Afterwards, a nurse visits biweekly or monthly to manage supportive care equipment such as home ventilator, check-up patient's condition and provide nursing service. Physician used televisits using video call and makes home visit if necessary.

**Conclusions:** The STAH program is a first developed HaH program for pALS and their caregiver in Korea. It's time to develop various HaH programs for seriously ill patients who want to stay at home.

**Keywords:** amyotrophic lateral sclerosis, Hospital at Home, home-based medical care, motor neuron disease

# RESPONDING TO TERMINAL DETERIORATION IN RESIDENTIAL AGED CARE HOMES: PRELIMINARY EVALUATION OF AN AUSTRALIAN HOSPITAL AT HOME (HAH) SERVICE

# HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Most Australians prefer to die at home, but only 14% achieve this. HaH services are increasingly used to provide palliative care to patients with complex needs, particularly those in residential aged care homes (RACHs). The Royal Melbourne Hospital (RMH) HaH service (RMH@Home Acute), led by geriatricians, serves a large cohort of aged care residents requiring palliative care. This study aims to describe how RMH@Home Acute addresses the palliative care needs of this population, explores their care preferences, and outlines the delivery of terminal care.

**Methods:** Retrospective cohort study of patients with palliative care needs admitted to RMH@Home Acute over a six month period (July–December 2023).

**Results:** There were 141 admissions for 133 individual patients residing in RACHs. Referrals were predominantly from residential in-reach services (n=113, 80.0%) and hospital (n=22, 15.6%). After-hours referrals accounted for 60 out of 141 admissions (42.6%). Forty-six (32.6%) admissions were managed in collaboration with the RMH specialist palliative care outreach service. Discharge outcomes included death in RACH (36/141, 25.5%), discharge to primary care providers (49/141, 34.8%), and discharge with additional community palliative care support (51/141, 36.2%). All deaths aligned with the patient's or family's preferred place of death. The final analysis will elucidate the interventions of each pathway in meeting patient needs and preferences.

**Conclusions:** Preliminary findings suggest HaH can respond acutely to terminal deterioration and provide valuable palliative care during the end-of-life phase. In conjunction with palliative care services, this is particularly relevant for patients living in RACHs where transfer to a hospital might be contrary to their preferences.

Keywords: Hospital at Home, Residential Aged Care, palliative care, End of life care

# CHALLENGES OF ACUTE TRANSITIONS FROM HOSPITAL TO HOME FOR END-OF-LIFE CARE (EOLC): LESSONS LEARNED FROM A COLLABORATIVE SPECIALIST PALLIATIVE CARE AND HOSPITAL-AT-HOME (HAH) SERVICE PILOT

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

# Angela Zeng<sup>1</sup>, Aaron Wong<sup>1,2,3</sup>, Seok Lim<sup>2,4</sup>

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**Background and Aims:** Dying and care in the place of choice is an important component of a "good death". Home-based palliative care can increase the likelihood of dying at home by offering multidisciplinary support for end-of-life care. This study aims to increase the number of patients transitioning from hospital to home for end-of-life care (EOLC) through a Hospital at Home (HaH) model.

**Methods:** The program involved HaH doctors and nurses, palliative care physicians, clinical nurse consultants, and allied health practitioners (occupational therapist, physiotherapist, social worker). Patients admitted to the Royal Melbourne Hospital, a quaternary metropolitan teaching hospital in Victoria, Australia, who wished to die at home and had a caregiver were eligible. They received daily in-home nursing reviews and HaH medical consultations via telehealth, with palliative care physicians providing weekly reviews and more frequent input as needed. Allied health support was available based on need.

**Results:** During the 9-month pilot, 11 referrals were made, with 5 patients admitted. Reasons for not admitting all referred patients included rapid clinical changes, caregiver stress, and alternative service availability. Of the admitted patients, one died at home, one continued home care with community support, and three spent additional time at home before planned readmissions.

**Conclusions:** The pilot improved collaboration between palliative care and HaH services, though challenges included integration into the broader service framework, limited staff awareness, and patient instability. Future efforts will focus on continued education, expanding referral sources, and refining criteria to enhance program effectiveness.

Keywords: palliative care, End of life care, Hospital at Home, Multidisciplinary Support

# OPTIMIZING SUPPLY CHAIN MANAGEMENT FOR SCALABLE HOME-BASED CARE: THE NUHS@HOME MODEL

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** The shift from a traditional brick-and-mortar hospital model to delivering hospital care at home necessitates a new approach to supply chain management. NUHS@Home provides decentralized care outside the hospital, posing unique challenges in logistics, inventory management, and workforce coordination. The primary aim is to optimize resource scheduling and vendor management for transport and logistics, ensuring sustainable scalability in home-based care delivery.

**Methods:** A comparative analysis between traditional hospital supply chains and NUHS@Home's model was conducted. Logistical challenges, such as moving ward inventory to patients' homes and addressing transportation of medical personnel and patients, were analyzed. Technological and strategic solutions were explored to manage distributed consumables, coordinate multiple providers, and overcome the absence of integrated IT systems.

**Results:** Technology like Google Glass has reduced travel time, allowing clinicians to review more patients daily. Devices like CADD pumps, reducing the number of nurse visits from three to one per day, have also been trialed. Efforts are ongoing to use data analytics for forecasting, expand satellite teams to minimize travel time, and explore central warehousing and outsourcing logistics to scale NUHS@Home.

**Conclusions:** Achieving the expansion goal of 400 virtual beds by 2030 will require the adoption of technology, operational efficiency improvements, and strategic outsourcing to address supply chain challenges. These efforts will ensure NUHS@Home delivers scalable, efficient, home-based care, surpassing the constraints of traditional hospital models.

**Keywords:** Supply Chain Management, Operational Efficiency, Logistics Optimisation, Resource scheduling

# EVALUATING A NASCENT IN-HOME TREATMENT MODEL REPLACING LONG TERM CARE FOR THE GERIATRIC DEPENDENT OLDER ADULT

# HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** 2% of the Geriatric population in Israel is currently residing in long term care. The decision to transition to long-term care involves the overall capability of the eco-system to support the older adult. It is affected by caregiver abilities, cultural beliefs, patient status, and state of elder's home. The Return Home is an Israel Ministry of Health initiated care model. This study's aim was to determine the model's efficiency in preventing long-term care placement in a complex, dependent geriatric population.

**Methods:** Data was analyzed from the EHR of Sabar health, a hospital at home provider. Participants enrolled in July 2021 to November 2022 from hospitals at discharge. Caregiver input was obtained from interviews in the beginning and end of the one-year intervention.

**Results:** 138 patients enrolled in the intervention. 86 (62%) completed the intervention in their homes, 39 (28%) died during the intervention, 5 (4%) were transferred to a long-term facility, 8 (6%) were disenrolled for other reasons. Prescription medications usage declined by 0.79 on average per patient. 40 had pressure ulcers at admission, all were healed after 1.5 months on average. Caregiver burden measured by Zarit score declined from 20.89 to 9.70, t (156) =11.88, p<0.001.

**Conclusions:** The Return Home intervention prevented long-term care placement in a complex, dependent geriatric population in a non-diagnosis-specific manner. Home care models, specifically designed to maintain "aging in place" needs of this patient population, can be scaled globally and help mitigate the aging population's need for long term care.

Keywords: aging in place, dependent complex patients, Geriatric care model

# POST-SURGICAL HIP FRACTURE HOME-BASED PHYSIOTHERAPY. A COLLABORATIVE PROGRAM WITH THE HOSPITAL'S REHABILITATION SERVICE.

# HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Most patients discharged home after a hip fracture do so after an average stay of 10 days in our country, according to data from the national hip fracture registry, and have barely begun physical therapy. Early discharge with Hospital at Home (HaH) is proposed in accordance with clinical guidelines to improve health outcomes for these patients with the aim of early gait recovery and better pain control. Hypothesis The working hypothesis is that rehabilitation at home produces better health outcomes than the usual indications after discharge from the Orthopedic Surgery and Traumatology Service and the Rehabilitation and Physical Medicine service to Primary Care. Objectives To improve health outcomes with better pain control and gait recovery at home one month after discharge.

**Methods:** Study Design: A descriptive study of patients over 65 years old admitted to HaD after undergoing surgery for traumatic hip fractures. Variables: Sociodemographic variables Changes in the Barthel Index, specifically in the domains of transfers and ambulation, analyzed at hospital admission, discharge from HaD, 45 days, and six months. Mortality, readmissions, and geriatric frailty.

**Results:** Preliminary data from 37 patients. Mean age 80 years. Mean length of hospital stay 10 days. Mean length of stay at HaH Unit 9 days. VAS at admission: 3.13; VAS at discharge from the HaH Unit: 0.7. Barthel Index prior to fracture 85/100; at admission to the HaH Unit 51/100. At 45 days 60/100

**Conclusions:** HAH rehabilitation offers significant advantages, including accelerated recovery of walking ability, effective pain control, and reduced complications

Keywords: Hospital at Home, Physiotherapy, hip fracture, Elderly, functional recovery

# PATIENT CALLS 112 - \_DIRECT ACUTE MOBILE SPECIALIST \_HOME VISIT INSTEAD OF AMBULANCE

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** For older, frail patients, extended periods of waiting in emergency departments and hospitalisations carry an inherent risk of adverse events, e.g. infections and pressure injuries. This has the potential to result in personal suffering and increased costs of care. The Sahlgrenska University Hospital Mobile Home Care Team makes home visits to frail patients who can benefit from assessment, treatment and follow-up at home. The patients were initially referred by home care nurses, health care centers, as follow-up after emergency department visits, or post-assessment by ambulance services. Since August 2023, we have also been receiving referrals from the emergency number 112, with a focus on frail elderly patients. Our aim is to prevent unnecessary hospital admissions and provide safe, convenient and cost-effective treatment in the patient's home. These patients will be assessed directly by a specialist, thereby avoiding the need for them to attend the emergency department.

**Methods:** The Mobile Home Care Team cooperates with the emergency call centre, which detects frail elderly patients in the emergency call. When a suitable candidate is found, the mobile homecare team is assigned and carries out home visits.

**Results:** In between August 2023 and August 2024, we assessed around 1150 patients following referrals from 112. Around 84% remained at home after the initial assessment.

**Conclusions:** The method seems to be effective as a large majority of frail patients do not need to go to the emergency department.

Keywords: home visits, acute assessements, acute home care team

# BRINGING THE HOSPITAL HOME : AN INTEGRATED AND HOLISTIC APPROACH TO FRAILTY AND PALLIATIVE CARE

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Bromley's aging population presents with significant multimorbidity and frailty, making hospital admissions for these individuals high-risk. Bromley Hospital at Home (H@H) developed an integrated model, incorporating frailty, respiratory, IV antibiotic, and palliative care pathways. Recognising the complex, dynamic needs of these patients, early palliative input improved symptom management, proactive advanced care planning and reduced admissions. Multidisciplinary (MDM) meetings supported joint decision-making and peer learning.

**Methods:** A one-year retrospective analysis was conducted on patients who received palliative care input. Data included referral sources, diagnoses, frailty scores, time from admission to palliative review and interventions. Clinician reflections were also captured.

**Results:** Of 261 patients seen by H@H-palliative, 107 (40.6%) transitioned from other H@H pathways. 64% were referred from hospitals and 36% from the community. Conditions included infections (38%), COPD (15%), and heart failure (15%). 68% had Clinical Frailty Score (CFS) of 6 or 7. Clinicians requested palliative input within 72 hours for 41% of patients. Key interventions included advanced care planning (77%) and symptom control (34%). 97% of patients were discharged back to community services. Upskilling the broader team improved confidence in recognising palliative care needs and engaging in end-of-life care discussions.

**Conclusions:** Early integration of palliative care within H@H facilitated hospital stepdowns, allowing clinicians to continue/initiate end-of-life discussions whilst managing potential deterioration and honouring patients preferences. This approach ensured timely interventions, supported holistic care and reduced hospital admissions. Joint working is essential for delivering seamless care across the system. Further qualitative research is planned to gain deeper insights into patient and caregiver perspectives.

Keywords: palliative, multimorbidity, holistic, integrated model

# BRINGING RESPIRATORY CARE HOME: ADDRESSING INEQUALITIES IN FRAIL, MULTIMORBID POPULATIONS

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Acute respiratory infections disproportionately affect elderly and frail populations, exacerbating healthcare inequalities. Bromley Hospital at Home (HaH) launched a respiratory arm in 2023, aligning with national priorities to improve accessibility, reduce hospital admissions, and support early discharge. The service integrates hospital-level respiratory care into community settings, providing direct access to respiratory and microbiology specialists to enhance outcomes for multimorbid patients.

**Methods:** A retrospective analysis was conducted on all patients admitted to the respiratory pathway between December 2023 and July 2024.

**Results:** 217 patients were managed, with 63% receiving in -person care and 36% a hybrid of virtual and in-person care. 61% of admissions were hospital step-downs, facilitating early discharge. The population was elderly and frail, with 57% aged 71-90 years and 57% presenting with a Clinical Frailty Score (CFS) of 6 or higher. Conditions included lower respiratory tract infections (45%), COPD (31%), bronchiectasis (14%), and COVID-19 (4%). Interventions included IV antibiotics (33%), blood monitoring (92%), and advanced care planning (42%). Comprehensive bronchiectasis management was delivered, with 100% of patients receiving airway clearance techniques and 74% undergoing sputum analysis. Microbiology input ensured timely, targeted antibiotic use. Providing physiotherapy within patients' home improved adherence to clearance techniques.

**Conclusions:** The HaH respiratory arm significantly improved access to specialist care for frail, elderly patients. Key successes include timely advanced care planning, proactive bronchiectasis management, and increased adherence to respiratory physiotherapy through contextual learning. Further optimisation includes reducing length-of-stay and increasing COPD discharge bundle completion. Future goals include enhancing self-referrals for exacerbations as part of long-term condition management.

Keywords: healthcare inequalities, chronic respiratory disease

# TACKLING COPD AT HOME: INTEGRATING CARE TO REDUCE READMISSIONS AND IMPROVE OUTCOMES

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** COPD is a major contributor to morbidity and mortality globally, placing a heavy burden on healthcare systems and exacerbating health inequalities. In response, Bromley Hospital at Home's (HaH) respiratory service was developed to increase care accessibility, support early discharge, and reduce hospital readmissions for frail, multimorbid patients.

**Methods:** A retrospective analysis conducted on COPD patients admitted to the respiratory pathway between December 2023 and July 2024.

**Results:** Of 69 COPD patients, 57% received daily face-to-face care, and 43% received a combination of face-to-face and remote care. 49% had infective exacerbations, 18% of whom required IV antibiotics, while 51% had non-infective exacerbations. The cohort was frail, with 53% having a Clinical Frailty Score (CFS) of 6 or higher. Most (66%) were step-downs from hospital care. Integrated care included consultant-led multidisciplinary team (MDT) discussions (38%), specialist respiratory physiotherapy (35%), and palliative care input (16%). Key interventions included nebulisers (42%), steroids (62%), and diuretics (20%). Advanced care planning (ACP) was completed in 41%, and 26% of patients received the COPD discharge bundle. 78% of patients were treated and discharged, 19% required escalation to hospital, and 3% died. The target length of stay was exceeded by 23%, and 19% were readmitted within a month.

**Conclusions:** Bromley's HaH respiratory service improved access to multidisciplinary care for frail COPD patients, reducing hospital readmissions below the national average. Further optimisation is needed to decrease length of stay and improve COPD discharge bundle completion. This innovative care model demonstrates how targeted, integrated respiratory care can address healthcare inequalities for high-risk populations.

Keywords: COPD, chronic respiratory disease, Healthcare Inequality
# CHALLENGING TRADITIONAL HOSPITAL MODELS OF CARE IN THE MONASH AT HOME AGED AND REHABILITATION CARE SERVICE

#### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Worldwide there has been a dramatic growth in the delivery of hospital level care in the home, focusing on acute clinical care. Within the hospital walls there is often a clinical, operational, financial and even geographical divide between acute and subacute care for patients. As new "at home" services are developed they are often built based on existing inpatient models. In Australia both Geriatric Evaluation and Management (GEM) and Rehabilitation are being delivered by hospitals in an inpatient substitution "at home" model.

**Methods:** With the recent expansion of the Monash at Home Aged and Rehabilitation Care (MAHARC) service, the opportunity was taken to challenge the traditional hospital models. To create a service that was defined by what can be delivered to patients at home rather than developing extensive inclusion and exclusion criteria based on the traditional hospital divide between acute and subacute care.

**Results:** In the year following the expansion and redesign, MAHARC provided medically led multidisciplinary care for more than 750 patients who would otherwise have received their care in hospital. The service successfully adapted from admitting more 80% of patients from subacute inpatient units following lengthy inpatient admissions, with the inherent risks of hospital acquired complications and deconditioning, to consistently admitting more than 80% of patients from acute services such as the Emergency Department or acute wards.

**Conclusions:** The MAHARC model of care removes the divide between acute and subcute care supporting patients through medically led multidisciplinary care to reduce the time spent in hospital or avoid inpatient admission entirely.

Keywords: multidisciplinary, Aged and Rehabilitation, Models of Care, Subacute, Acute

# DIRECT ADMISSIONS TO HOSPITAL AT HOME: A DESCRIPTIVE STUDY

# HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Hospital at home programmes(HaH) facilitate early supported discharge and admission avoidance. Between the two, admission avoidance has been suggested to provide better clinical outcomes with reduced cost. Direct community admissions(DCA) have the benefit of full hospital avoidance, reducing the workload of stretched emergency departments. This study describes the DCA process and patients in a HaH in Singapore.

**Methods:** A review was done of all non-COVID-19 DCA from May 2022 to July 2024. Patient demographics, clinical frailty score(CFS), Charlson comorbidity index(CCI), referral source, diagnosis, length of stay(LOS), treatment, return to hospital, 30-day readmission and 30-day mortality was obtained.

**Results:** There were 95 DCA. 5 referral sources were identified: specialist clinics(SOC), primary care physicians(OPS), community healthcare teams(CCT), self-referrals and nursing homes. 55% of SOC, 14% of OPS, 90% of CCT and 50% of self-referral admissions were frail (CFS >=5). CCI of SOC and self-referral admissions was 5 compared to 6 from CCT and 3 from OPS. LOS of SOC admissions was 5(3-8), 4(4-7.5) from OPS, 6(2.5-8) from CCT and 4(1.5-5) from self-referrals. 6 and 5 patients from SOC and self-referrals respectively were readmitted. 2 patients from SOC, 8 from CCT, and 1 from self-referrals passed on. A virtual care centre (VCC) was initiated to triage cases from OPS, NH and self-referrals. 22% of DCA now come from the VCC.

**Conclusions:** DCAs are an important part of HAH. These admissions can differ greatly in frailty and complexity. A VCC can be a good solution to help triage and facilitate DCA.

Keywords: Hospital at Home, Direct community admissions

# HOSPITAL AT NURSING HOME EXPERIENCES AND LESSONS.

# HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** This study describes the experience of a Hospital-athome(HAH) and nursing home(NH) collaboration, reviewing the suitability of NH residents(NHR) for HaH and factors that may increase the rate of referrals to HaH.

**Methods:** Chart review of all NHR requiring acute hospital care from 1 May 2024 to 31 July 2024 was done. Eligibility for HAH admission and reasons why NHR were not referred to HAH were obtained.

**Results:** 42 NHR required acute medical care. 6(14%) did not require admission. 36(86%) NHR were hospitalized. Of those hospitalized, 7(17%) NHR were admitted to HAH (2 direct from NH, 2 from ED, 3 from general ward(GW) with 29(69%) admitted to the GW. Of the 36 NHR admitted, 5(14%) were eligible for direct admission from NH to HAH. Of the remaining 31, 21(58%) were clinically unstable, 3(8%) presented out of referral hours, 7(19%) required services not supported by HaH. After stabilization in the GW, 21 NHR were eligible for HAH of which 18(86%) were not referred. 1(6%) declined HaH, 1(6%) required specialized scans, 3(16%) were planned for discharge the next day. No reasons were provided for the other 13(72%).

**Conclusions:** HAH and NH collaborations are a possible avenue to reduce admissions to acute hospitals. Many NHR were unsuitable for direct admission from NH to HaH as they were clinically unstable but became eligible after 12-24hrs of hospitalization. Active engagement of ED and GW physicians to identify and refer suitable NHR to HaH may help to increase referral rates and uptake of HaH.

Keywords: Hospital at Home, Hospital at Nursing Home

#### **INCORPORATING PALLIATIVE CARE INTO HOSPITAL AT HOME**

#### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Patients with incurable cancer have recurrent hospitalisations towards end-of-life due to infections and cancer-related symptoms. Unplanned admissions are burdensome, especially for those who wish to remain at home.

**Methods:** We review a case study of a palliative-care patient with a complicated infection, who was successfully managed under Hospital@Home (HaH). A 63-year-old Chinese gentleman with advanced colorectal adenocarcinoma was admitted for liver abscesses and Klebsiella pneumoniae bacteremia. Four weeks of intravenous meropenem was required. Patient was transferred home under HaH in line with his preferred place of care. Multiple stakeholders were involved: 1) inpatient palliative-care specialists, 2) home hospice team, 3) family members as caregivers. During his 3-week admission under HaH, he had daily teleconsults, supplemented by home visits to manage symptoms and provide caregiver training. A family conference was held during which we established patient's wish to pass on at home and not be readmitted to hospital. This provided closure for patient and his family. On completion of antibiotics treatment, he was discharged from HaH and we transitioned his end-of-life care to home hospice.

**Results:** HaH enabled us to accomplish the objectives of: 1) respecting patient's preferred place of care/death, 2) providing optimal treatment of infection, 3) facilitating end-of-life counselling for patient and family, 4) transitioning towards home-based palliative care.

**Conclusions:** HaH presents a novel value-driven care approach where palliative-care patients can receive acute medical treatment in their preferred place of care – home. The success of this model requires leadership by the HaH team to ensure seamless collaboration between stakeholders.

Keywords: palliative care, value-driven care

# OLDER PERSONS EXPERIENCES FROM RECEIVING EMERGENCY DEPARTMENT CARE AT HOME FROM A MOBILE HEALTHCARE TEAM IN SWEDEN

#### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Globally, healthcare delivery through Hospital at homeprograms has become increasingly common. In Sweden the implementation of such solutions in the healthcare system have been comparatively slow to. However, the utilization of mobile healthcare teams is more prevalent. Most teams in Sweden are either hospital-based, offering enhanced discharge services or palliative care, or operate within a primary care setting. Since 2020 there have been a development towards more acute care, with mobile healthcare teams focused on avoiding and replacing emergency department (ED) care. This study aims to explore older persons ´ experience of receiving ED care at home from a mobile healthcare team.

**Methods:** The study was conducted at Sahlgrenska University Hospital, Gothenburg, Sweden. Eligible participants were persons aged 75 years and older who had received ED care at home. 29 patients participated in interviews between July 2022 and January 2023. Data were analysed using qualitative content analysis.

**Results:** Most of the patients had prior experience with ED-visits and perceived care provided by the mobile healthcare team to be equivalent to, or better than, their previous hospital-based experiences. Patients reported that the care encompassed similar components, such as medical examination, history-taking, diagnosis and treatment, delivered in a more comfortable and relaxed environment. However, participants noted that in a certain circumstance, hospital care was deemed necessary, primarily due to lack of social and practical support at home.

**Conclusions:** The findings suggest that emergency care delivered by a mobile healthcare team is a viable alternative to usual ED care, resulting in favorable patient experience and high satisfaction levels.

**Keywords:** Emergency department care at home, Mobile healthcare team, Older persons, Interviews

# BREAKING OUT OF THE BRICK AND MORTAR: TREATING ACUTE HEART FAILURE IN THE HOME

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Congestive Heart Failure (CHF) is the most common cause of hospitalization for patients over 65. Multiple studies have shown that the national all-cause 30-day hospital readmission rate for HF patients is 20-25%. Advanced Care at Home (ACAH) is Kaiser Permanente's response to the Hospital at Home movement across the country. In this retrospective study, we examined the potential impact of ACAH admission on the rate of ED visits and re-admissions.

**Methods:** In 2022, KP (Kaiser Permanente) Northern California's ACAH program admitted 63 patients for CHF exacerbation. Data on these admissions was analyzed retrospectively. We assessed all ED visits for CHF Exacerbation in the 180 days before and after the ACAH encounter. We then looked at all-cause readmissions in the 30-day period post-ACAH discharge.

**Results:** Our results showed a 50% decrease of in the number of ED visits in the 180 days after ACAH Admission for CHF patients, both for CHF and other diagnoses. Additionally, our patients had a significantly lower all-cause re-admission rate than the national average.

**Conclusions:** ACAH offers an opportunity for patients with acute heart failure to be safely treated at home after stabilization in the emergency room or hospital. Acute care of heart failure in the home setting has the advantage of putting patients back in their home environment while they receive intravenous infusions of diuretics, close monitoring of their renal function and weight, and ongoing heart failure education. In this retrospective study, our data shows a trend toward decreased ED visits and readmissions after ACAH treatment of CHF.

Keywords: Advanced Care at Home, Heart failure, CHF, Readmissions, Quality

# FACTORS IMPACTING SAFE DISCHARGE TO VIRTUAL REHABILITATION WARD FROM ACUTE WARD

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Virtual Rehabilitation Ward (VRW) has been established since January 2022 to improve bed flow in the acute hospital. Patients who are medically complex and has high nursing needs with rehabilitation goals are referred to VRW for intensive rehabilitation in their home. This study reviews the factors which impact patient's safe discharge to home with VRW.

**Methods:** This is a retrospective study from October 2022 to December 2023. Patient's electronic medical record (EMR) had been utilised to gather information on age, support system, frailty status, accommodation type and uptransfers reason within 72 hours of discharge.

**Results:** 291 patients' EMR were reviewed and median age of patients were 73 years old. 23 patients (7.9%) were uptransferred back to the acute hospital within 72 hours of discharge. 6 of the 23 patients (26.1%) was not safe to be at home as assistance are required for personal care and transfer/mobility, 4 (17.4%) fell with fractures or head strike and 13 (56.5%) was medically unstable. 8 of the 10 patients (80%) who are uptransferred due to not being safe at home or had a fall live by themselves. The average frailty score of these patients are 5 using clinical frailty scale (living with mild frailty).

**Conclusions:** Besides considering patient's medically stable for discharge, it is also important to factor in their support system. Based on our review, patients who live alone is more likely to return back to the acute hospital after discharge if their level of independence is not adequately assessed especially if the patient is frail prior to the acute admission.

Keywords: Rehabilitation, Safe discharge, Frail

# INTEGRATING RESPIRATORY THERAPY IN A HOSPITAL-AT-HOME MODEL: CASE SERIES OF PNEUMONIA MANAGEMENT IN NURSING FACILITY PATIENTS

## HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Taiwan National Health Insurance Administration initiated the Hospital at Home (HaH) pilot program on July 1, 2024, offering intravenous antibiotic therapy for pneumonia patients in their nursing facilities. This case series presents five pneumonia patients from a nursing facility who received HaH treatment from a multidisciplinary team at Wan Fang Hospital, which included respiratory therapist interventions. The aim is to develop a new model for pneumonia care within the HaH framework by integrating respiratory therapists into the care team.

**Methods:** All pneumonia patients in the HaH program at the nursing facility received comprehensive respiratory therapist interventions. These interventions included airway clearance therapy (e.g., the use of airway clearance vests), oxygen therapy, and education on the use of nebulized medications.

**Results:** Five pneumonia patients from the nursing home were treated under the HaH program by the multidisciplinary team from Wan Fang Hospital. Each patient received daily respiratory therapy, including airway clearance vests, oxygen therapy, and nebulized medication education. All patients completed their treatment without requiring hospital readmission or emergency visits within 14 days post-discharge. The integration of respiratory therapy effectively managed respiratory symptoms, contributing to positive clinical outcomes.

**Conclusions:** The HaH program, incorporating respiratory therapist interventions, was effective and safe for treating pneumonia patients in a nursing home setting. The multidisciplinary approach, including targeted respiratory care, contributed to positive patient outcomes.

**Keywords:** Hospital at Home, Emergency department Passed Admission, respiratory therapist

# IMPLEMENTING SMART HOME TECHNOLOGY FOR ENHANCED HOSPITAL-AT-HOME CARE DURING CANCER CHEMOTHERAPY

### HAH SUPPORTIVE AND RELATED MODELS OF CARE

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**Background and Aims:** Many advanced cancer patients prefer home care, valuing comfort and family presence over hospital settings. However, care gaps during chemotherapy home stays often lead to side effects, including poor medication adherence, inadequate nutrition, depression, and reduced self-care, potentially compromising further treatment. To address these issues, our study assesses the integration of smart home systems into HaH models.

**Methods:** Our pilot study engaged patients with advanced cancer during multiple chemotherapy intervals, utilizing a smart home system equipped with IoT sensors and AI technology. The system featured continuous biometric monitoring, integrated therapeutic management, and AI-enhanced communication tools for timely patientdoctor interactions. Key health indicators observed included medication compliance, nutritional status (NRS2002 scale, BMI), pain management (VAS score), psychological status (PHQ-9 scale), and daily life self-care ability (ADL scale). Periodic nurse visits complemented the remote monitoring capabilities, enhancing patient safety and care responsiveness. Feedback from patients, caregivers, and doctors focused on system satisfaction and acceptance was analyzed.

**Results:** Smart home technology deployment reduced caregiving pressure and hospital bed usage while improving patient health, especially psychological well-being. Participant feedback highlighted the system's effectiveness in meeting patient preferences for home-based care and delivering timely professional medical interventions.

**Conclusions:** Smart home systems enhance home care quality for cancer patients during inter-chemotherapy periods, improving monitoring, compliance, and quality of life while reducing caregiver burden in Hospital-at-Home programs.

Keywords: Hospital at Home, Advanced Cancer Care, Smart Home Systems

# INTERNATIONAL HOME CARE NURSES ORGANIZATION

### OTHER

<u>Susan Hinck</u>, Mary Narayan, Marilyn Harris International Home Care Nurses Organization, Dayton, United States of America

**Background and Aims:** The International Home Care Nurses Organization (IHCNO) advances home-based nursing practice around the world by providing a platform where nurses support and learn from one another while respecting one another's differences. The mission is to develop and support a vibrant worldwide network of nurses who promote excellence in equitable care for optimal health and well-being of patients in their homes. Home-based nursing is a specialty area of nursing practice characterized by unique knowledge and skills. IHCNO provides an international forum to empower nurses through practice, education, research, and advocacy. Key projects include monthly newsletters, quarterly interactive forums with the IHCNO president, webinars and conferences, and opportunities for leadership on committees and the Board of Directors. IHCNO bestows an annual grant to fund research with promising contributions to home-based nursing care. IHCNO works to promote healthy workplaces for nurses within a framework that includes effectiveness, efficiency, equity, patient centeredness, safety, and timeliness.

**Methods:** An exciting research study in progress is the IHCNO collaboration with the American Nurses Association to define the scope and standards of home-based nursing practice from an international perspective.

**Results:** The study included four surveys to geographically diverse home care nurses to capture diversity of home-based nursing in their countries, scope of nursing practice in their countries, recommendations for standards of practice, and recommendations for competencies.

**Conclusions:** The study will inform the International Scope and Standards of Home-Based Nursing Practice document which will be completed in 2025.

Keywords: Home Care, nursing practice, scope and standards of practice

# HITH NURSING'S VALUE PROPOSITION: AN AUSTRALIAN PERSPECTIVE

### OTHER

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**Background and Aims:** The Hospital in the Home Society of Australasia wants to establish the unique selling point (USP) of HaH nursing from an Australian perspective. A study on HaH Registered Nurses' roles highlighted their value proposition. The study revealed how and why HaH nurses differ from hospital nurses, thus enabling HaH nursing recognition as a speciality nursing field.

**Methods:** A literature review revealed little about the USP of HaH Nursing. With little being known, the Hospital in the Home Society of Australasia Board created a qualitative and quantitative survey to explore this phenomenon. All society members could complete the survey because we believed other healthcare professionals might have important insights into the HaH nursing role. The survey was available on the society's web page and at the HITH conference. Analysts analysed the information to find data that would showcase the proposition value of HITH Nursing.

**Results:** The results showed that the unique selling point of HAH RNs does not exist in a single clinical skill revealed it. We have a unique selling point in the way we apply our entire range of nursing skills.

**Conclusions:** HaH nurse's unique selling point encourages collaborative working with other healthcare professionals. It also ensures the fostering of skill development to continue providing excellent acute care to patients in their homes. The results emphasised the importance of not forgetting why we provide Acute Care at Home. Losing sight of this would cause losing our identity and the unique knowledge and skills we contribute to the patient's healthcare team.

Keywords: Nursing, hah, Unique selling point, Speciality

# CLOWNS IN THE PEDIATRIC HOME HOSPITALIZED: EXPLORING THE PERCEPTIONS OF FAMILIES AND NURSES.

## OTHER

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**Background and Aims:** Every year, Fondation Santé Service provides hospital at home (HAH) care for 1,900 children in the Paris area, mainly in neonatology and oncology. Pathologies and associated care can have a major impact on children and their families. As a complement to conventional treatments for the burden of illness, distraction therapies are offered, such as clowns known in pediatric hospitals for decades. Although generally perceived positively, the presence of clowns can alter care relationships, and even provoke reticence. In addition, there is little data on the use of clowns with children in the HAH setting.

**Methods:** From March to June 2024, we experimented with the intervention of trained clowns with our HAH pediatric patients, in conjunction with our nurse. Testimonies from families, caregivers were collected.

**Results:** Fifteen sessions took place, in pairs with a childcare worker and two clowns. Fifty-seven children and their family benefited from one clowns' intervention. The age range was 4 days to 10 years (median 1 year and four months). Thirty-eight percent were treated for premature birth sequelae, 31% for hemopathies and solid tumors and 9% for cardiopathies linked to genetic abnormalities. Overall, feedback from the families and the nurses were positive. Nevertheless, the testimonials prompted inquiries regarding the efficacy and applicability of such interventions and the role of the nurse, with some individuals even expressing coulrophobia.

**Conclusions:** Clown intervention may be proposed as a distractive therapy among HAH pediatric patients. Further biopsychosocial research is needed to better understand the benefits and barriers of clown care in this setting.

**Keywords:** home hospitalization, clowns, Children, distractive therapy, Hospital at Home

# USING CLINICIAN LED, DATA DRIVEN APPROACH TO IMPROVING HOSPITAL AT HOME SERVICES ACROSS ENGLAND: EXPERIENCES OF USING THE GET IT RIGHT FIRST PROGRAM IN ENGLAND

### OTHER

<u>Shelagh O'Riordan</u>, Rajiv Sankaranarayanan, Sarah Mercer, Maria Parsonage, Towhid Imam, Charlotte Lynch NHS England, Virtual Ward Program, United Kingdom

**Background and Aims:** The Getting It Right First Time (GIRFT) programme is a national NHS England programme designed to improve the treatment and care of patients through in-depth review of services, benchmarking, and presenting a data-driven evidence base to support change. We present our experiences of undertaking the first program specifically for hospital at home services.

**Methods:** Reviews combine wide-ranging data analysis with the input and professional knowledge of senior clinicians to examine how things are currently being done and how they could be improved. Reviews take place via Microsoft Teams for 2-3 hours. The reviews provide an opportunity to have an open, honest and practical conversation with clinical peers about how the virtual ward service is currently working. This includes identifying good practice as well as areas for improvement. Topics covered in the review include but are not limited to: ·Capacity and occupancy of the virtual ward ·Referral routes and approach to increasing referrals ·Care model and interventions ·Suitability of patient cohort, including patient acuity ·Clinical governance and support ·Workforce model ·Technology enablement and access to equitable diagnostics, including point of care testing ·Approach to addressing health inequalities

**Results:** So far over 70 virtual wards have been reviewed covering 25% of capacity nationally. The key themes for improvement are: Length of stay, occupancy, suitability of patients and increasing use of POCT and remote monitoring Feedback from services reviewed has been very positive

**Conclusions:** We havedescribed use of a successful data driven, clinically led approach to quality improvement specifically for hospital at home.

Keywords: Quality Improvement, Hospital at Home, GIRFT, Review

# "THE RAT AND THE BEDBUG": WHEN THE REALITY OF HOME CLASHES WITH HOSPITAL HYGIENE

### OTHER

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**Background and Aims:** Our HAH operates in urban and rural areas, in all social environments. Our social team is regularly called upon to deal with pest infestation problems. Reports made over the last two years were analyzed retrospectively from the patient files.

**Methods:** Reports made over the last two years were analyzed retrospectively from patient files

**Results:** 18 reports were made. 11 men – 7 women. Mean age 61.4 years (32 to 96 years). 45% treated for complex dressings, 22% palliative care, 10% chemotherapy, 10% therapeutic education. Main pathology: cancer 22%; cognitive and psychiatric disorders 33%; diabetic foot 22%; gestational diabetes 22%; other 16% In 55% of cases it was an infestation by cockroaches, 22% by bedbugs, 17% by flies/worms, 17% by mice/rats. The main contributing factors were: financial difficulties (55%), mobility limitation (44%), isolation (33%), cognitive or psychiatric disorders (33%), unsanitary housing (33%). Only 3 HAH stays were refused or stopped.

**Conclusions:** In HAH, the condition of the home sometimes does not allow the expected standards in terms of hospital hygiene to be achieved. Poverty, isolation and behavioral disorders are most often to blame. Home care must be maintained when it is in the patient's ultimate interest. The social team then intervenes to organize pest control, put in place assistance, or even provide direct financial support from our Foundation.

Keywords: Hospital hygiene, social environment

# OVERCOMING ADOPTION BARRIERS IN HOSPITAL AT HOME PROGRAMS: STRATEGIES FOR PHYSICIAN ENGAGEMENT

### OTHER

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**Background and Aims:** Launching a program modeled around providing acute care athome presents challenges, particularly around physician adoption. Traditionally, physicians have been trained to manage acute conditions within brick-and-mortar hospitals, making the transition to home-based care a substantial shift in mind-set and practice. This resistance stems, for example, from concerns around patient safety and reliability of at-home monitoring technology.

**Methods:** A home health nurse serves as an "Escalation Preventionist" during what we call our daily "Care Without Delay" rounds in our hospitals. The goal is to ensure that patients in the emergency department, or under observation status, are proactively identified as eligible candidates for ACAH and providing an alternative venue to an inpatient hospitalization.

The same nurse team will also encourage transferring clinically eligible patients sooner from the hospital to ACAH services, reminding hospitalists of the resources available through ACAH to provide the same level and quality of care in the patients' home.

**Results:** Our partner home health nurses play a crucial role by virtually monitoring urgent care dashboards to identify eligible patients and encouraging rounding physicians to consider referring the patient hospital at home (Advanced Care at Home or "ACAH"), in most cases allowing the patient to be transferred home sooner to continue their established care plan.

**Conclusions:** At the Mid-Atlantic Permanente Medical Group, we've challenge by made progress to overcoming adoption barriers by proactively engaging with physicians at the point of care to help identify eligible patients and facilitate the transition to ACAH.

Keywords: Barriers, expansion, engagement, challenges, integrated

# EVALUATION OF HOSPITAL AT HOME IN PIONEERING PROVIDERS - THE SELECTION OF SUITABLE COMPARISON GROUPS

### OTHER

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**Background and Aims:** Hospital at Home (HaH) is established in some countries. However, in many countries it has just started to be implemented – often by enthusiastic pioneers. Although its value in offering patient-centric care with outcomes at least comparable to inpatient settings, regulators, insurances and politicians typically require a new country-specific cost-benefit evaluation including a comparison with traditional inpatient care. This requires finding a suitable control group. We discuss several strategies to construct or identify such a control group allowing also to assess data of interest.

**Methods:** This topic was intensively discussed in our research group as part of developing an evaluation strategy for pioneering providers in Switzerland. In addition, existing evaluations from other countries were reviewed.

**Results:** Potential strategies included randomization before or after checking eligibility for HaH, identifying matching subjects in national registries or within provider networks, and use of contemporary or historical patients from hospitals not offering HaH. Main barriers for selecting a specific strategy were the difficulty in identifying potential HaH patients due to (diagnostic) heterogeneity and self-selection, the lack of data on relevant clinical outcomes, the wish to incorporate satisfaction of all stakehol ders as an important dimension, the need for simultaneous development and evaluation of HaH, and the lack of established reimbursement policies.

**Conclusions:** There is no single, best way to find a suitable control group in this specific situation. We recommend using simultaneously several approaches and to take advantage of the specific local situation of the pioneering providers.

**Keywords:** Cost-benefit analyses, Comparison groups, Evaluation, Observational data, Randomised controlled trials

# PREPARATION FOR HOME HOSPITALIZATION AT MEUHEDET HEALTH SERVICES DURING WAR TIME

#### OTHER

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Background and Aims: Meuhedet Health Services insures 1.3 million residents, of which 3,500 are in home hospitalization, including 200 home ventilated patients. Israel has been at war since October 7, 2023. At the beginning of the war, there was a need to evacuate populations from the conflict zones. Therefore, we prepared to continuity of medical care to home hospitalized patients. HAH medical teams were equipped with protective equipment, including helmets and shrapnel vests. We developed a dedicated software that included all the medical and administrative data on each patient. The data is updated online, ensuring continuity of care to the evacuated patients. Medical teams at evacuation destinations treated patients within 48 hours. Home ventilated patients needed energy backup in case of prolonged power outages. This issue was discussed with government officials, and it was decided to provide generators to home ventilated patients based on medical priority and proximity to the country borders. By the end of 2024, 110 generators were supplied to home ventilated patients at Meuhedet Health Services. Patients dependent on home Total Parenteral Nutrition (TPN) require cooling for TPN solutions. To prepare for potential extended power outages, these patients were equipped with non-refrigerated TPN solutions.

Methods: A descriptive ana non-resarch poster

Results: A descriptive ana non-resarch poster

**Conclusions:** Conclusion: The preparations of Meuhedet Health Services home hospitalization units proved effective over the past 14 months, maintaining quality and continuity of care despite changes in patients' living locations.

Keywords: home hospitalization, During War Time

# A QUALITATIVE STUDY OF PARENTS EXPERIENCE IN AN URBAN HOSPITAL AT HOME SERVICE FOR CHILDREN AND YOUNG PEOPLE

## **PATIENT & CAREGIVER EXPERIENCE**

<u>Beth Abraham</u><sup>1</sup>, Ronny Cheung<sup>2</sup>, Laura Farnham<sup>1</sup>, Aanchal Raina<sup>3</sup>, Sara Ahmed<sup>3</sup> <sup>1</sup>Guy's & St Thomas' NHS trust - Evelina London Childrens Hospital, Childrens At Home & Community Nursing Service, London, United Kingdom, <sup>2</sup>Evelina London Children's Hospital, Paediatrics, London, United Kingdom, <sup>3</sup>King's College London Medical School, London, United Kingdom

**Background and Aims:** Hospital at Home (HAH) services provide the opportunity for patients who would normally be treated in hospital to receive care in their own homes. There is evidence that HAH can improve productivity and patient satisfaction, however, evidence is more limited for the paediatric population. The aim of this study was to explore patients' experiences with a Children's HAH service in an urban setting in the UK.

**Methods:** Semi-structured interviews were conducted with parents of six patients, sampled from a clinical database approximately 30 days after discharge from Evelina HAH. Anonymised transcripts were thematically coded to identify key themes.

**Results:** Four key themes were extracted: Clinical Care; Care at Home; Communication; Suggested Interventions. Opinions of clinical care were positive, particularly with regard to trust in professionals and their expertise and thoroughness. Convenience and experience of care at home was highlighted, as well as the psychological safety afforded to children. There was positive experience of communication with the team, with particular emphasis on the collaborative nature of interactions with the team. Some respondents felt broader awareness on the availability of the service would be beneficial. Participants generally placed more value on face-to-face interaction over remote monitoring technology.

**Conclusions:** Parental experience of a children's HAH service were very positive and several advantages were highlighted, including professionalism and attention to detail from staff, as well as reduced time spent in hospital. Insights on future directions include striking a balance between remote technology and face-to-face contact with healthcare professionals.

**Keywords:** patient experience, Childrens hospital at home, parents, children and young people

# ESTABLISHING GRIEF SUPPORT IN HOSPITAL AT HOME ORGANIZATION

# **PATIENT & CAREGIVER EXPERIENCE**

<u>Marlie Amboula</u>, Floriane Bourdin Sitex Sa, Plan les Ouates, Switzerland

**Background and Aims:** During the SFAP congress in April 2023, the palliative care resource nursing team (IRSP) at Sitex identified the need for grief support for the families of deceased patients under hospital at home organization (HaH). Sitex, a hospital at home organization located in the cantons of Geneva and Vaud, then launched a project to establish a structured grief support system. This initiative aims to address the lack of specific follow-up and provide ongoing support to caregivers after the death of their loved ones cared for by Sitex.

**Methods:** The project includes sending a standard letter to families three months after the patient's death. A follow-up phone call is made a few weeks later to reinforce support. This approach is based on an assessment of psychosocial needs, providing information and advice on grief, and referring to specialized services if necessary.

**Results:** Analysis of the initial results shows a significant improvement in support for families, filling the gap created by the cessation of care after the patient's death. Families report continuous and tailored support during this difficult time, contributing to their emotional well-being.

**Conclusions:** The implementation of this grief support at Sitex highlights the importance of integrating grief assistance into palliative care. This approach enhances continuity of care and improves the quality of support for caregivers.

**Keywords:** palliative care, grief support, caregivers, end-of-life care, psychosocial support

# HOSPITAL AT HOME FOR BOTULINUM TOXIN INJECTIONS: 2 YEARS OF CLINICAL PRACTICE

## **PATIENT & CAREGIVER EXPERIENCE**

<u>Florence Angioni</u>, Alexis Schnitzler Hôpital Fernand Widal - Lariboisière, APHP, , France

**Background and Aims:** Intramuscular botulinum toxin injection is a treatment of muscle hypertonia. By reducing muscle tone, it may facilitate activities of daily living such as bathing, dressing, toileting, positioning, transferring and walking in people with neurological disorders (such as stroke or traumatic brain injury). These injections are usually performed in an outpatient clinic. Performing these injections at home has several benefits: it improves goal setting and allows better treatment effectiveness assessment. Moreover, it reduces the cost and discomfort of ambulance transport and eliminates waiting time at the hospital. Performing theses injections in patients usual environment may also reduce patients anxiety. Our aim is to improve the quality of care for people with disabilities.

**Methods:** We established a cooperation between the Physical and Rehabilitation Medicine (PRM) department and the Hospital at Home (HaH) unit of Fernand Widal -Lariboisière Hospital, Greater Paris University Hospitals (AP-HP). Intramuscular botulinum toxin injections were performed at bedside under ultrasound guidance by a physiatrist, mostly in residential care homes or nursing homes.

**Results:** In 2 years, we performed 95 botulinum toxin injections at residential care homes or nursing homes. More than 85% of these injections achieved their goals. Treating patients at home saved more than €15,000 in transport cost.

**Conclusions:** Performing botulinum toxin injections at home in a HaH model represents an innovative care pathway that is easy to create. It participates in improving access and quality of care for people with disabilities.

**Keywords:** people with disabilities, botulinum toxin injections, muscle hypertonia, Care Pathway

# EVALUATION OF ANXIETY AND DEPRESSION IN PREGNANT WOMEN HOSPITALIZED AT HOME DURING PREGNANCY

#### **PATIENT & CAREGIVER EXPERIENCE**

<u>Mathilde Barrois</u>, Anais Malandain Hospitalisation à Domicile HAD APHP, Paris, France

**Background and Aims:** This study aims to identify factors associated with depressive and anxiety symptoms in women cared in obstetric home hospitalization (HAD) during the antepartum period.

**Methods:** This is a quantitative, monocentric, observational study that included all French-speaking women hospitalized in the HAD of AP-HP between September 2022 and February 2023. Anxiety and depressive symptoms were assessed using the selfadministered HADS (Hospital Anxiety and Depression Scale) questionnaire. Analyses were conducted on two distinct groups, comparing patients with an anxiety or depression score below 8 on the HADS questionnaire to those with a score of 8 or higher (corresponding to intermediate symptomatology). A second questionnaire created for the study detailed maternal history, pregnancy experiences.

**Results:** A total of 64 women were included in the study period. Eighteen women showed anxiety symptoms, and thirteen exhibited depressive symptoms. Factors significantly associated with anxiety included a negative pregnancy experience (p = 0.04), need for psychological follow-up during pregnancy (p < 0.001), country of birth (p = 0.022), and previous consultations with a mental health specialist (p = 0.015) or history of psychotropic medication use (p = 0.028). Additionally, a history of violence (p = 0.034 and p < 0.01) were also associated with anxiety and depressive symptoms.

**Conclusions:** Our results highlight the importance and necessity of strengthening the screening and prevention of various psychological disorders during pregnancy. It would be beneficial to implement organized screening for anxiety, similar to depression, in pregnant women hospitalized at home, as well as for the entire obstetric population.

Keywords: anxiety, depression, High risk pregnancy, home care management

# FRAILTY HOSPITAL AT HOME DEMENTIA CRISIS TEAM: ALLOWING PEOPLE LIVING WITH DEMENTIA TO HAVE ACUTE PHYSICAL AND MENTAL HEALTH CRISIS MANAGED AT HOME.

### **PATIENT & CAREGIVER EXPERIENCE**

### Violet Chikomba

Kent Community Health NHS Foundation Trust, Urgent Care Services, Herne Bay, Kent,, United Kingdom

**Background and Aims:** Background and aims People living with dementia in the United Kingdom (UK) are forecast to increase between 2021 and 2051 to around 1.7 million. Studies report hospital in-patients with dementia to be at higher risk of inappropriate care and poor outcomes, risk of adverse events and complications (e.g. worsening delirium, falls, dehydration, bed sores, infections, death and emergency re-admission.

**Methods:** Team: Mental Health clinicians with dementia expertise supported by a Consultant Psychiatrist for clinical consultations. Able to respond quickly and see patients at home

**Results:** 179 patients were treated in 10 months, avoiding acute hospital admission Joint visits with the Frailty H@H allow acute physical illness to be diagnosed and treated or excluded. Able to mobilise long term mental health services Treat symptomsbehavioural interventions, optimise medication, care plans for carers to follow Extra social support

**Conclusions:** The Dementia crisis team have prevented acute hospital admissions, ensuring patients receive the appropriate treatment and remain in their own home

Keywords: Dementia Crisis, Frailty

# HOSPITAL-LEVEL CARE AT HOME FOR ACUTELY ILL ADULTS IN RURAL SETTINGS: A QUALITATIVE EVALUATION OF A RANDOMIZED CONTROLLED TRIAL

## **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** Most home hospital (HH) efforts have occurred in urban areas. Qualitative outcomes among patients who receive HH and live in rural settings are less understood.

**Methods:** We performed a qualitative evaluation of a randomized controlled trial (RCT) of rural HH (RHH). Patients randomized home received twice-daily nurse or paramedic visits, remote physician care, remote monitoring, and other hospital-level care services. 40 patient interviews were completed. We conducted interviews until saturation and analyzed using grounded theory and thematic analysis.

**Results:** We identified 3 domains: (1) Perceived quality of care, (2) Perceived comfort, and (3) Experience with technology. All patients interviewed reported positive experiences with the HH care team. Patients noted their strong interpersonal skills and appreciated the one-on-one time. Overall, patients perceived that the quality of care was similar or better at home than in the hospital and most patients agreed that having a remote physician was effective. Patients reported positive safety and cited the continuous vitals monitoring as a reason for feeling safe. Patients appreciated the ease and familiarity of being at home, being closer to loved ones, and the uninterrupted rest. Many patients were comfortable with RHH technology. However, several patients noted initial hesitation and frustration with the technology.

**Conclusions:** HH patients cared for in RHH compared to brick-and-mortar were satisfied with the quality of care, preferred the home setting, and mostly reported being comfortable with RHH technology. These results support future HH efforts in rural areas.

**Keywords:** rural health, randomized controlled trial, rural home hospital, patient experience

# SATISFACTION LEVEL OF CAREGIVERS OF PALLIATIVE CARE PATIENTS IN THE HOME HOSPITALIZATION UNIT REGARDING THE USE OF THE SUBCUTANEOUS ROUTE.

## PATIENT & CAREGIVER EXPERIENCE

<u>Nerea Gallardo De Esteban</u>, Onintza Aranzadi, Natividad Gallo, Kira Rico, Eider Amilibia Hospitalizacion a domicilio, , Spain

**Background and Aims:** INTRODUCTION: The primary caregiver is essential for the home hospitalization team to care for palliative patients at home. When the oral route is insufficient, the subcutaneous route is often used. Medication administration can be challenging for non-healthcare personnel, so proper instruction in the use and management of the subcutaneous route is essential to improve patient care. To facilitate autonomous medication administration by caregivers, our hospital's home hospitalization service uses single-dose rescue formats defined by colors. OBJECTIVES: To evaluate the satisfaction level of caregivers of palliative patients at home regarding the use of the subcutaneous route, using medication prepared in single-dose rescues and defined by colors.

**Methods:** METHODS: This observational, descriptive, and cross-sectional study used a previously validated Likert scale questionnaire. The questionnaire was given to all caregivers of palliative patients at home under the care of home hospitalization for 3 months. It includes questions to understand the caregiver's profile and their degree of autonomy and safety in using the subcutaneous route.

**Results:** RESULTS: The highest-rated items (93.48%) indicate that caregivers felt more confident using the subcutaneous route and received clear explanations from healthcare personnel. The lowest-rated items (73.91%) relate to distinguishing patient symptoms. Overall, caregivers rated the single-dose rescue system defined by colors very satisfactorily at 94.48%.

**Conclusions:** DISCUSSION AND CONCLUSIONS: The results show a positive balance regarding satisfaction with the use and management of single-dose rescues by caregivers, preventing medication administration from being an added stress factor when caring for end-of-life patients.

Keywords: palliative care, caregiver satisfaction, subcutaneous route, Caregiver

# DEVELOPMENT AND IMPLEMENTATION OF A STANDARD PHARMACIST MEDICATION CONSULTATION TOOL

## **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** Acute Care at Home provides hospital level acute care at home to patients aged 65 and older. WHO identified 'Medication Without Harm' as the theme for the third Global Patient Safety Challenge. WHO recognises that the highest prevalence rate for preventable medication-related harm exist for patients treated in geriatric care units. Using our knowledge, skills and experience as Clinical Pharmacists we want to ensure the safe use of medicines through education of patients and consultation with other healthcare professionals. The aim of the study was to optimise medication consultation tool. Our objectives were to improve patient/ carer knowledge and understanding of their medication, improve communication between patients/carers and healthcare professionals and to reduce polypharmacy and associated anticholinergic burden.

**Methods:** Study was undertaken July and August 2024. We measured qualitative data about the patient medication consultation experience and collected quantitative data on medication changes. We designed and introduced a tool to standardise our medication consultation and to improve pharmacist medication optimisation. We designed a feedback form for patients or their carers to complete an assessment of the pharmacists input.

**Results:** show more than 1 medication stopped per patient with a corresponding >20% reduction in Anticholinergic burden . Patients/carers evaluated the pharmacist consultation as excellent (average 4.96 out of 5).

**Conclusions:** We have shown that out consulation tool reduces polypharmacy and the anticholinergic burden. Using the tool improves shared decision making, medication information and supports patients and families with their medication.

Keywords: Pharmacist, Medication, Consultation, Optimisation, Review

# EXPERIENCES OF PATIENTS AND CARERS RECEIVING HOME-BASED ACUTE CARE

# PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** Whilst evidence demonstrating clinical benefits of providing acute care at home exists, understanding the views and experiences of those receiving such care, and of those caring for them, is also important. This study sought to gather perspectives from patients and carers with recent experience of receiving acute care at home, exploring their views, experiences and suggestions for service improvements.

**Methods:** As part of a mixed methods study evaluating two admission avoidance services, patients and carers with experience of either service participated in semi-structured interviews, which were analysed using framework analysis.

**Results:** Interviews were conducted with four patients and five carers, including both professional and family carers. Five key themes were identified: Service descriptions, Service user characteristics, Location-of-Care decision-making, Interactions and experiences of other services, and Perceptions & Suggestions. A key finding from these interviews was the positive perception that patients and carers had of receiving acute care at home, despite limited expectations. They reported a strong preference for care being provided in this environment, and were very positive about the services that facilitated this. They reflected on the high interpersonal and clinical skills of the staff they encountered, and compared their experiences of these services favourably against previous hospital admissions.

**Conclusions:** Overall, participants reported very positive experiences of home-based acute care, were complimentary about the healthcare teams, and generally would happily use a similar service if needed in future. A small number of service improvement suggestions were made, which varied considerably, and were service-specific.

**Keywords:** Patients and Caregivers, Qualitative, experience, Interviews, Perceptions of HaH

# OVERCOMING TECH ADOPTION BARRIERS TO INCREASE HOME HEALTHCARE WORKER SAFETY

#### **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** Home-healthcare workers often face significant safety challenges in isolated environments. Studies reveal that 33% to 87% of these workers experience workplace violence during their careers, with two nurses assaulted every hour. Additionally, 68% of healthcare workers report feeling unsafe, highlighting the urgent need for effective safety measures. Common threats include verbal abuse (18%–65%), sexual harassment (41%), physical assaults (2.5%–44%), and environmental hazards like poor lighting (21%) and neighborhood crime (19%). Despite the growing demand for home-healthcare driven by an aging population, traditional safety tools such as panic buttons fail to gain widespread adoption due to forgetfulness, difficulty in use, and recharging requirements.

Methods: To address these challenges, the Kwema Smart Badge Reel<sup>™</sup> was introduced as a discreet, wearable safety solution for home-healthcare workers. Designed to integrate seamlessly into caregivers' daily routines, it eliminates the need for additional devices, offering Bluetooth Low Energy (BLE) connectivity, a response dashboard, and SMS/email alert notifications. By prioritizing simplicity, discretion, and ease of use, the Smart Badge Reel<sup>™</sup> aimed to improve safety tool adoption and enhance confidence during emergencies.

**Results:** In a pilot program with a major healthcare system, the solution increased caregiver confidence in safety by 50% within three months. The discreet design ensured seamless integration, while quick activation reduced emergency response times, significantly improving caregiver well-being.

**Conclusions:** Safety tools for home-healthcare workers must be intuitive, discreet, and integrated into daily routines. Kwema's Smart Badge Reel<sup>™</sup> demonstrates that effective solutions can enhance caregiver confidence, reduce workplace violence risks, and improve safety outcomes for workers in high-pressure environments.

Keywords: Home Healthcare Safety, Workplace Violence, duty of care

# PARENTING CHALLENGES FOR CHILDREN WITH CANCER AND THEIR PARENTS IN THE HOSPITAL-AT-HOME CARE

# PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** Each year in France, approximately 2,260 new cases of cancer are diagnosed in children under the age of 18. Hospital-at-home (HAH) care is becoming an increasingly important component of treatment for these children and is generally seen as a source of reassurance and comfort for both the child and their parents. However, it also intrudes upon the family's intimacy and balance, which are already strained by the cancer diagnosis. In this context, HAH can significantly impact the parents' ability to fulfill their caregiving roles. Our research explores the effect of HAH on the parenting experience.

**Methods:** A qualitative study was conducted through semi-structured interviews with children diagnosed with cancer and their parents. The interviews were analyzed using reflexive thematic analysis.

**Results:** Initial analysis identified several themes for both children and parents. The children expressed relief at receiving care at home from both their parents and healthcare teams. While parents appreciated the assistance of the HAH teams, they often felt their parental responsibilities were being compromised. They reported challenges related to HAH and described a shared caregiving role with the nursing staff.

**Conclusions:** These preliminary findings suggest that in the context of cancer, which already causes significant disruptions to family dynamics, HAH interventions further affect parenthood. Future research is needed to better understand these complex interactions.

Keywords: Children with cancer, Hospital-at-Home care, parent, parenting

# PATIENT-REPORTED SYMPTOM EXPERIENCE OF PATIENTS IN RURAL HUNTSMAN AT HOME

# **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** Cancer patients' experience of symptoms is what triggers urgent care and emergency department visits, bringing the patient to HaH care. Tracking patient-reported symptoms (PROs) provides essential data about outcomes. The study aim was to examine serial reports of PROs from admission through 30 days in a rural oncology HaH program, Huntsman at Home.

**Methods:** Patients admitted to rural HaH were asked to report symptom PROs weekly utilizing The M.D. Anderson Symptom Inventory (MDASI) at their admission and for four weeks after. The MDASI includes the 13 most common symptoms cancer patients report. Inaddition, 6 items measure symptom interference. A 0-10 rating scale is utilized.

**Results:** Twenty-one patients were consented. The majority were female (60%) with an average age of 56 years, a variety of cancer diagnoses, with stage IV advanced cancer most common (60%). At baseline the most severe symptoms were fatigue, pain, disturbed sleep, lack of appetite, dry mouth and emotional distress. Average symptom severity was 3.48 at baseline and steadily decreased in weeks 1-3 (2.87; 2.53; 2.09). By week 4, symptom severity trended back up (3.51). Symptom interference scores were highest at baseline (4.51) with particular concern for work interference and decreased activity.

**Conclusions:** Symptoms during oncology HaH admission are important to follow to obtain the patient's experience of disease and treatment. As expected, symptoms are highest at HaH admission and improve over time. However, symptoms were noted to rebound at 4 weeks suggesting that patients with conditions likely to recur, should be closely monitored after discharge to prevent further exacerbations.

Keywords: Patient-reported symptoms, Oncology, rural hospital at home

# SERVICE DESIGN FOR CARE AT HOME: PROMOTING HEALTH LITERACY FOR PATIENTS, RELATIVES AND PROFESSIONALS

#### **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** Hospital at Home (HaH) programs in Switzerland are expanding, reflecting a broader shift to patient-centered care. However, many operate in silos, with limited cross-institutional coordination and insufficient attention to the health literacy needs of patients, caregivers, and professionals. The project "Service Design for HaH" developed a service blueprint to analyze Swiss HaH models, identifying critical information needs, competency gaps, and optimization opportunities as a foundation for a follow-up project.

**Methods:** The project employed a multi-phase methodology to address challenges in HaH initiatives. A comprehensive literature review established baseline knowledge, informing the design of semi-structured interviews with 12 stakeholders, including representatives from four leading HaH providers, patients, and their relatives. These interviews explored communication, trust-building, and professional education. The qualitative data were analyzed to identify key themes and guide the development of a service blueprint.

**Results:** The project revealed challenges in distinguishing HaH services from other care models, with misunderstandings often arising during emergencies or due to unclear communication. However, trust in care staff and general practitioners frequently compensated for these gaps. Limited public awareness was identified, with patients and their networks unfamiliar with HaH programs despite positive experiences. The home care setting was seen as attractive for staff but highlighted variability in competencies, emphasizing the need for targeted training in acute care and digital skills.

**Conclusions:** The study highlights the need for information for patients, their caregivers and healthcare staff on how existing HaH care models operate. A follow-up initiative aims to develop an information and learning platform that provides this information.

Keywords: service design, Health Literacy, care coordination, training

## **BEING DIFFERENT IN HOSPITAL AT HOME**

### PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** Health is a key factor in social integration and cohesion. With a focus on proximity and service humanization, care delivery is being reorganized to reduce inequalities and place citizens at the center. Hospital at Home (HaH) programs prioritize vulnerable populations to minimize the negative effects of hospitalization, providing care in familiar environments.

**Methods:** Over three years, 21 patients with special characteristics (5% of total admissions) were treated in a HaH program. These patients included 5 with severe cognitive impairment, 6 with cerebral palsy, 4 with paraplegia, 3 with Down syndrome, 2 with neuromuscular diseases and 1 non-Portuguese-speaking patient from India. The cohort consisted of 13 males and 8 females, with an average age of 53.43 years. Most patients (19) had varying degrees of dependence, 9 of whom were completely dependent. Sixteen patients lived at home with a permanent caregiver, while 5 were institutionalized. Ten patients came from the Emergency Department, 7 patients from Inpatient and 4 from Outpatient Consultation.

**Results:** Seventy percent of patients were admitted for infectious diseases requiring antibiotic therapy. The average hospital stay was 13.83 days, with no complications or readmissions within 72 hours. Dysphagia was detected in 9 patients, and 13 received rehabilitation. All patients were discharged after their hospital course.

**Conclusions:** This study emphasizes the importance of HaH units in treating vulnerable populations. By caring for these patients at home, HaH reduces the physical, emotional, and family impacts of hospitalization, while also enhancing the quality of care provided by caregivers.

Keywords: Vulnerable populations, Health inequality, home hospitalization

# A QUALITATIVE STUDY ON HEALTHCARE PROFESSIONALS' VIEWS REGARDING THE IMPACT OF DIGITAL HEALTH SOLUTIONS ON PATIENT INTERACTIONS.

# PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** With the shift towards hospital-at-home models, where patients receive care at home, the use of digital health solutions (DHS) has grown significantly. In general, the patient-healthcare professional (HCP) relationship is critical, as it directly affects patient satisfaction, treatment adherence, and health outcomes. This qualitative study aims to explore HCPs perspectives on how these new models of healthcare delivery impact patient-HCP interactions.

**Methods:** Semi-structured interviews were conducted with twenty-six HCPs from various medical departments. Interviews were recorded, transcribed verbatim, and analysed through thematic analysis by two researchers.

**Results:** Three main themes emerged: The impact of DHS on the patient-HCP relationship, shifting responsibilities, and patient anxiety. HCPs noted that implementing DHS changed their interactions with patients, making video consultations more informal and shifting interactional etiquette. HCPs noted that DHS can empower patients by increasing their responsibility for their own health and reducing anxiety through the provision of data insights. However, they also observed that DHS can disturb communication, such as when patients access medical results before consultations, leading to potential confusion or miscommunication. HCPs emphasized that the suitability of DHS depends on the patient's health status and digital literacy.

**Conclusions:** Perspectives of HCPs varied based on the DHS used within their medical specialization, the type of patients treated (chronic vs. non-chronic conditions), their digital skills, and the level of professional experience (residents vs. established specialists). These findings underscore the importance of carefully integrating DHS into hospital-at-home models to maintain a strong patient-HCP interaction and optimize care outcomes.

**Keywords:** Digital Health Solutions, Patient-healthcare provider interaction, Communication

# QUALITY OF LIFE AMONG OSTOMY PATIENTS IN HOSPITAL AT HOME – THE STOM'HAD STUDY

## **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** A quality of life (QoL) study conducted in 2019, showed that ostomates were among the most impaired of our Hospital at Home (HAH) patients. Thus, we further investigated the specificities of this particular population.

**Methods:** From April to December 2022, a questionnaire was mailed to ileostomy or colostomy patients currently being treated or who had been treated in the last six months at our HAH. The questionnaire included the EQ-5D-3L QoL scale and 28 questions exploring more specific aspects of the ostomy patient's experience, including general symptoms, practical and material aspects, psychological aspects, social life, and social perception.

**Results:** Fifty-eight patients were included in the study. The mean age was  $70.3 \pm 12.7$  years, and 55% were women. Most of ostomies were colostomies (62%) and permanent ostomies (67%). Cancer was the main reason for ostomy (70%). The overall QoL was low (mean EQ-5D VAS score 56.2 ± 16.8), with the most frequently reported difficulties being discomfort (81%) and limitation of daily activities (78%).

The exploratory analysis of the specific questions identified three primary areas of concern: psychological aspects (anxiety, feelings of being a burden to others, sleep disturbances, etc.), difficulties in maintaining a normal social life (choice of clothes, socializing with other people, etc.), and concerns related to the stoma itself (odor, pain, seeing one's stool, fear of running out of material, etc.).

**Conclusions:** The impact of ostomies on QoL is not limited to technical aspects of ostomy care, and it is imperative not to overlook the psychological and social dimensions of management.

Keywords: quality of life, ostomy patients, Hospital-at-home

# ENGAGING PATIENTS AND CLINICIANS IN THE DESIGN OF HOSPITAL AT HOME IN FRASER HEALTH

# **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** This session explores the innovative engagement strategy used to inform the service design of the Hospital at Home (HaH) model in Fraser Health. Through webinars, interviews, and interactive visioning workshops, we collaborated with patients, caregivers, and clinicians to understand and leverage opportunities for HaH as a transformative model of care.

**Methods:** A qualitative approach was employed, involving webinars, interviews, and visioning workshops with patients, caregivers, and clinicians. This engagement strategy aimed to gather diverse perspectives and insights to inform the HaH service design framework. Thematic analysis was used to identify key themes and patterns from the collected data.

**Results:** The proactive involvement of patients and clinicians served as a change management strategy within Fraser Health. Participants highlighted the importance of patient-centered care, technical support, and user-friendly technology. The collaborative approach deepened our understanding of patient and clinician needs, fostering awareness and a desire to advance HaH implementation. Key findings include the necessity of addressing digital literacy, cultural barriers, and privacy concerns in multi-generational homes.

**Conclusions:** The session demonstrates that patient and clinician voices are essential drivers of meaningful change. By actively engaging these stakeholders, Fraser Health gained valuable insights into the transformative potential of HaH. This collaborative approach not only informed the service design framework but also promoted equitable and accessible HaH services. Ongoing collaboration with health authorities, community organizations, and patient engagement is crucial for successful HaH implementation.

**Keywords:** service design, patient experaince, Hospital at Home, clinician experiance, co-design

# PATIENT SATISFACTION AND CAREGIVER OBSERVATIONS OF CONTINUOUS ANTIBIOTIC THERAPY GIVEN THROUGH ELASTOMERIC PUMPS AT THE PATIENTS HOME.

### **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** Hospital at home (HaH) was introduced in 2021 by the Skane university hospital, in southern Sweden. In 2023 outpatient parenteral antibiotic therapy (OPAT) using elastomeric pumps was included in the HaH approach. This research aims to investigate patient's satisfaction and experience and to do observations of the treatment at home.

**Methods:** A structured chart was developed and used to record daily observations of the pump and the intravenous access. The observations were done by HaH team nurses when changing the pump. To investigate the patients' perspectives a structured questionnaire, including numeric scales and open-ended questions, was used. This data was collected between September 1st until December 1st 2024 and the analysis is ongoing.

**Results:** The preliminary results are based on 49 patient observations, covering 291 pump changes. In 14 cases the pump was not sufficiently emptied because of closed or bent iv-line, leakage or unknow cause, leading to an extra dose of antibiotics. The peripheral venous catheter, the mostly used intravenous access, had few complications. The preliminary results on patients satisfaction is based on thirty-five patients ´ questionnaires. The patient graded their satisfaction with the treatment at home as 5.3 on a scale 1-6. A majority were positive to receive this treatment at home again, if necessary.

**Conclusions:** OPAT using elastomeric pumps was well received by the patients who were greatly satisfied with the offered treatment and receiving it at home. The results indicate that evidence-based knowledge can pave the way of an improved nursing care, adding caregivers' experience of a novel medical treatment.

**Keywords:** Hospital at Home, outpatient parenteral antibiotic therapy (OPAT), elastomeric pump, #Nursing care, Satisfaction

# PATIENT, FAMILY CAREGIVER AND HEALTH CARE PROVIDER EXPERIENCES WITH A HOSPITAL AT HOME PROGRAM IN BRITISH COLUMBIA, CANADA

# PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** The Hospital at Home (HaH) model offers patient-centered care outside traditional hospital settings and has demonstrated improvements in patient, family caregiver (FCG), and health care provider (HCP) experiences. Island Health's HaH program enrolled over 2575 patients by September 2024 This study, conducted by the AT-HOME research team, examines 18 months of patient and FCG experiences, focusing on admission, care quality, medication management, technology, intravenous treatment, discharge, and overall experience.

**Methods:** From October 2021 to April 2023, data were collected on patient and FCG experiences in Island Health's HaH program, along with HCP surveys. Participants were informed about the experience survey during admission and provided consent to be contacted post-discharge. Data were collected through phone or online surveys and stored in REDCap. Initial data collection was done by the AT-HOME team, with subsequent data gathered by a third-party research company.

**Results:** Survey results showed high satisfaction, with 100% of patients (n=266) and 98% of FCGs (n=142) likely to recommend HaH. Additionally, 99% of patients and 93% of FCGs rated their experience positively. The main benefits highlighted were staying at home and the excellent staff. HCPs also reported positive experiences, with 100% recommending HaH as a workplace and patient care option.

**Conclusions:** The study demonstrates a strong preference for the HaH model over traditional hospital care, offering comfort at home while reducing hospital capacity pressures. These findings support the broader implementation of HaH in Canada and globally to enhance healthcare experiences.

**Keywords:** Hospital at Home, patient, Family Caregiver, Health Care Provider, Experience Surveys
# PATIENT AND CAREGIVER EXPERIENCE OF HOSPITAL-AT-HOME PILOT IN SINGAPORE

# **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** Singapore General Hospital (SGH) partnered Ministry of Health Office of Healthcare Transformation (MOHT) to pilot the Hospital-At-Home (HAH) model in Singapore between April 2022 and March 2024 – under the SGH@Home program.

**Methods:** As a novel care model to Singaporeans, patient and caregiver experience was evaluted from two data sources: 1) Baseline and follow-up elective surveys conducted upon admission and discharge from SGH@Home and 2) Patient compliments received through official feedback channels.

**Results:** 177 patients and 37 caregivers participated in both the baseline and follow-up surveys. Comparing the experience in SGH@Home (follow-up survey) to physical ward (baseline survey), 151 (85.3%) patients and 32 (86.5%) caregivers reported that SGH@Home has exceeded their expectations compared to 131 (74.0%) patients and 26 (70.3%) caregivers on their physical ward experience. Patients and caregivers are as likely to recommend the services of physical ward and SGH@Home to others with similar conditions, with 157 (88.7%) patients and 34 (91.9%) caregivers indicating recommendations for both services. Open-ended feedback were provided by 66 patients and caregivers, 55 were positive and 11 negative. Recurring themes of positive feedback includes feeling safe receiving treatment outside of hospital, happy to recover comfortably at home, convenience from less travelling by caregiver. Negative feedback were on service quality of third-party providers engaged for after office-hours care and caregiver stress.

**Conclusions:** These findings demonstrated that patients and caregivers are appreciative of the HAH model. SGH@Home was launched as a regular service since April 2024. Continued feedback can be used to further improve the care experience.

**Keywords:** Singapore, patient and caregiver experience, open-ended feedback, survey, Singapore General Hospital

# A QUALITATIVE STUDY FOR THE PATIENTS' REPRESENTATIVES AND HEALTH PROFESSIONALS NEEDS AND PERSPECTIVES OF THE NEW HAH SERVICE IN THE GREEK NATIONAL HEALTH SYSTEM

## PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** Greek NHS is planning to establish a new Hospital at Home (HaH) program, endorsing digital health technology and co-funded via the Recovery and Resilience Fund. The HaH program includes the establishment of a system of hospital care at home by hospital units - Reference Centres , for children and adults with serious complex health problems and/or chronic diseases, which either require frequent hospitalisation or long-term hospitalisation. The aim of this qualitative study is to investigate and report the needs and expectations of patients' association representatives and health professionals, participating in the HaH, so as to provide improved quality of hospital and homecare services, reducing the risk of complications and the burden on the health system.

**Methods:** A focus group study design was used, based on an interview guide, after review of the literature and best practices. A facilitator hosted two sessions remotely, of a group of 4 invited health professionals and 3 patients' associations representatives of the respective services of the HaH, after signing informed consent forms.

**Results:** In the first session, the need for training and expertise was reported and for a platform able to support remote monitoring. In the second session, the users' expectations and challenges, included the importance of additional support for patients and home caregivers, updated task descriptions and coordination of the teams in the hospital and at homes.

**Conclusions:** HaH services of the Greek NHS, have the potential to improve the quality of life of the patients and support the health professionals, ensuring patient safety, and reducing the burden for the health system.

Keyword: qualitative study

# A QUALITATIVE STUDY FOR THE CAREGIVERS NEEDS AND PERSPECTIVES OF THE NEW HOSPITAL AT HOME SERVICE IN THE GREEK NATIONAL HEALTH SYSTEM

## PATIENT & CAREGIVER EXPERIENCE

<u>Eleftherios Thireos</u><sup>1</sup>, George Dafoulas<sup>2</sup>, Elpis Hatziagorou<sup>1</sup>, Christina Alexopoulou<sup>1</sup>, Venetia Tsara<sup>1</sup>, Varvara Mpoutopoulou<sup>1</sup>, Emmanouela Braoudaki<sup>3</sup>, Eirini Sioti<sup>3</sup>, Daphne Kaitelidou<sup>1</sup>, John Tsanakas<sup>1</sup>

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**Methods:** A focus group study design was used, based on an interview guide, after review of the literature and best practices. A facilitator hosted two sessions remotely, of a group of 4 invited informal caregivers and 2 formal caregivers representatives of the respective services of the HaH, after signing informed consent forms.

**Results:** In the first session, the users' needs included lack of training and support services plus their burden. In the second session, the users' expectations and challenges, included the need for training, patient safety, reimbursement of services, updated task descriptions and integrated digital health platform able to support seamless connection to the reference hospital.

**Conclusions:** HaH services of the Greek NHS, have the potential to cover the unmet needs of the informal caregivers, ensure patient safety and quality of care, and reduce the societal burden.

Keyword: qualitative study

# MENTAL HEALTH, QUALITY OF LIFE, AND SATISFACTION WITH HEALTHCARE NEEDS AMONG FAMILIES OF TECHNOLOGY-DEPENDENT CHILDREN; THE GREEK EXPERIENCE

# PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** In recent years, there has been an increase in technologydependent children. Severe chronic illnesses present multifaceted challenges, affecting various aspects of the lives of caregivers and their families. The aim was to assess the mental health, quality of life, and satisfaction with healthcare services among families of technology-dependent children.

**Methods:** The study included 48 patients with chronic respiratory diseases who are part of the "Home Care" program of the 3rd Pediatric Dept of Aristotle University of Thessaloniki. This is the only organized Hospital at Home program in Greece, running over the last 15 years. The children's caregivers completed questionnaires to assess the level of anxiety (GAD questionnaire), depression (PHQ-9 questionnaire), quality of life (DISABKIDS questionnaire), and their satisfaction with healthcare services (SHQ-SUN questionnaire).

**Results:** Of the 48 children, 41.7% (20) were girls, with an average age of 6.73 years (SD 5.754). It was found that 43.8% of their families experience mild anxiety, while 14.6% reported severe anxiety. The percentage of caregivers with mild depression was recorded at 66.7%, with the majority (71.4%) appearing to experience social isolation. Half of the families (49.1%) were satisfied with their overall quality of life, while the majority (71%) were satisfied with the provision of medical services and the clinic's environment. Correlation assessments found an association between these parameters and gender but not with age.

**Conclusions:** Recognizing and addressing the challenges faced by families of children with chronic illnesses who are dependent on technological equipment is essential for promoting targeted interventions aimed at effectively supporting them.

**Keyword:** technology-dependent, children, quality of life, healthcare needs, mental health

# PATIENT AND CARER EXPERIENCE OF A HOSPITAL AT HOME SERVICE

# PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** The Hospital at Home Team in the Southern Trust in Northern Ireland is a Consultant Geriatrican led, multidisciplinary team whose focus is maintaining older people at home in the event of an acute illness. Following expansion of the service, patient and carer experience was sought to measure the quality of the service provided. Aims and Objectives: To measure the effectiveness of the AC@HT. To understand the patient and carer experience of having the team in their home, their perception and any impact the AC@HT have had on them. To determine if having the team in the home caused added stress. To learn from the data, on how to improve the service.

**Methods:** This was a mixed methods study, both qualitative and quantitative data was collected. In order to garner as much rich data as possible the research team conducted focus groups, and 1:1 interviews. A patient and carer questionnaire will also be given to gather quantitative data.

**Results:** From the focus groups five themes were identified from the data: 1. Admission avoidance. 2. Patient centred care 3. Positive family experience 4. Team expertise 5. Impact on quality of life. With areas identified for improvement.

**Conclusions:** Satisfaction levels were 100%, with a hugely positive experience expressed. Participants would prefer the service compared to traditional hospital. The team have used the feedback to improve the discharge process as this was highlighted as an area of improvement during the focus groups. Positive feedback was shared within the team which has greatly impacted morale positively.

Keywords: patient experience, Service evaluation, Measuring Quality, Hospital at Home

# EXPERIENCES OF HOSPITALIZATION AT HOME IN FAMILY CAREGIVERS TO PATIENTS WITH LOWER RESPIRATORY TRACT INFECTION – A QUALITATIVE STUDY

# PATIENT & CAREGIVER EXPERIENCE

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**Background and Aims:** The Influenzer program is a virtual hospital at home program (vHaH) providing early transfer hospital-led monitoring and treatment for eligible patients. In this study, which is a part of a larger feasibility study, we investigated family caregivers' experiences with vHaH.

**Methods:** In this qualitative interview study sixteen family caregivers were interviewed between April 2022 and May 2023. The interviews were audio recorded, transcribed, and analyzed using Thematic Analysis.

**Results:** Three preliminary themes were generated: 1) 'Being the family caregiver supporting a home hospitalized patient, was an experience of conflicting feelings'. These covered both joy and insecurity. 2) 'Family caregivers were individuals with different experiences and needs'. 3) 'Unmet needs among family caregivers during home hospitalization'. These needs were connected to feelings of responsibility for the caregivers. They observed the patients, but somewhat blindly, without knowledge of what to look for.

**Conclusions:** vHaH was found valuable but a mixed experience with conflicting feelings of joy and insecurity. More information was requested by family caregivers to feel safe. The family caregivers were individuals with different experiences and needs, why our findings point towards further individualization of the family caregiver support.

**Keywords:** Hospital at Home, Early Transfer, feasibility study, telemedicine, Family Caregiver Experience

### **CO-CREATING A CARE PROJECT**

### **PATIENT & CAREGIVER EXPERIENCE**

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**Background and Aims:** Explanation of how the HAH care project is co-constructed by the nurse in charge of the situation with the patient and family carer. Nursing assessment, care objectives and validation of the project with the patient, the family carer and the prescribing doctor. A personalized care plan is draw up for each patient and re-evaluated throughout the course of treatment. The referring nurse is the patient's and family's compass as the disease progresses. They must anticipate the worst and hope for the best, taking care of the caregiver who is an essential partner in the care of the home.

**Methods:** Patient evaluation with interRAI Home Care Suisse (interRAI HC Suisse) Staff training, support for care givers, use of assessment tools, construction of patient files. Practice analysis with clinical nurse specialists

**Results:** Limiting/reducing the number of hospitalizations due to caregiver exhaustion. Patient satisfaction following satisfaction questionary

**Conclusions:** Co-construction of the care plan is a key aspect of the caregiver and care receiver partnership. It enables the involvement of family caregivers and the realization of the patient's life project.

Keywords: care project, co-construction, family career

# H@H C-17 NETWORK: A HOSPITAL AT HOME NETWORK INTO AN ALLIANCE OF HOSPITALS IN CATALONIA, SPAIN

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hospital at Home (H@H) services have been operational in Catalonia for over 30 years, with significant expansion during the COVID-19 pandemic. In 2020, the Catalan Health Service established a standardized H@H provision model to guide the increasing number of hospitals adopting this approach. The pandemic also accelerated the digital transformation of healthcare, enabling hybrid care models that combine in-home care with digital connectivity between healthcare professionals. This shift aligns with the growing emphasis on integrated, value-based healthcare delivery. Aims: The C-17 Hospital Alliance, comprising six hospitals in Catalonia, seeks to create an integrated H@H network. The primary goals of the H@H C-17 Network are knowledge transfer, the development of shared protocols, support for smaller H@H units, the facilitation of joint clinical sessions, implementation of innovative home technologies, and the advancement of collaborative research.

**Methods:** In 2023, a dedicated working group was established within the C-17 Alliance to focus on three key areas: tertiary care, telemedicine, and end-of-life care at home. These working groups are tasked with developing strategies to improve coordination and the quality of care within the network.

**Results:** Initial estimates indicate that approximately 150 patients receive H@H care daily within the C-17 Alliance hospitals. Early outcomes from the working group focus on protocol standardization, technological innovations, and strengthened inter-hospital communication.

**Conclusions:** The H@H C-17 Network is a pioneering initiative aimed at enhancing the quality and integration of home-based healthcare across multiple hospitals. By fostering collaboration and innovation, the network is set to improve patient outcomes and promote value-based healthcare.

Keywords: Hospital Alliances, Network, Integrated Healthcare

# CANCER CARE DELIVERY DURING THE PARIS 2024 OLYMPIC AND PARALYMPIC GAMES: LESSONS FROM A CRISIS-DRIVEN HOSPITAL AT HOME PROGRAM

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** The Paris 2024 Olympic and Paralympic Games posed logistical challenges for healthcare delivery, particularly for maintaining home-based cancer treatments amidst road closures and 15 million visitors. The Hospital at Home (HaH) program of Greater Paris University Hospitals (AP-HP) implemented innovative strategies to ensure uninterrupted care during this period.

**Methods:** HaH deployed a "Games Pass" system for its fleet of 500 vehicles and introduced electric bicycles and optimized pedestrian routes to address accessibility constraints. Dedicated lanes, in collaboration with city officials, ensured timely care. Personalized care plans were developed, accounting for patient locations and event schedules. Drug preparation was centralized, and advanced cold-chain methods facilitated delivery. Strategic pre-positioning of vehicles and personnel within restricted zones ensured continuous care, supported by real-time coordination through a dedicated management team.

**Results:** Between July 26 and September 8, 2024, HaH administered 1,946 chemotherapy/immunotherapy sessions to 535 patients (median age 72, IQR 60–79), including 29 pediatric cases. This represented 4.76% of AP-HP's total treated cancer patients, a significant increase from 2023 (3.9%, p < 0.05). Treatments included 31 drugs, with azacitidine (n=1025) and daratumumab (n=248) being most common. Key indications were multiple myeloma (n=235) and myeloid neoplasms (n=175). No treatment delays or patient harm were reported.

**Conclusions:** The HaH program ensured continuity of care during the Games, highlighting the importance of flexibility, real-time problem-solving, and patientcentered planning. These strategies offer valuable insights for improving routine HaH operations and managing healthcare during large-scale events.

Keyword: cancer

# PRELIMINARY COST-EFFECTIVENESS ANALYSIS FROM A QUASI-EXPERIMENTAL STUDY OF PATIENTS UNDER MEDICAL HOME – A HOSPITAL-AT-HOME SERVICE MODEL IN SINGAPORE

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Medical Home (MH) is a Hospital-at-Home (HAH) service model by Yishun Health, Singapore delivering multi-disciplinary care for patients requiring acute medical care in their homes. This study hypothesizes MH being a costeffective alternative to traditional inpatient stay.

**Methods:** This is a mixed-method quasi-experimental study comparing 125 patients under MH, and 125 patients who underwent usual hospital care under control group. Patients were recruited from July 2021 to May 2023. Health services utilized by patients and costs from index admission until 90-day post-discharge were extracted from electronic medical records. All costs were adjusted to 2024 using Singapore consumer price index and reported in Singapore dollars (\$SGD 1.00 = \$USD 0.77). We undertook health system perspective and analyzed costs and quality-adjusted life-year (QALY) gained for time horizons: index admission, and index admission to 90-day postdischarge. Multiple linear regressions were employed to estimate the incremental differences in cost and QALY between the two groups, adjusting for age, gender, education level, and Charlson comorbidity index. Incremental cost-effectiveness ratio (ICER) was calculated and compared against threshold using one gross domestic product (GDP) per capita in Singapore (\$SGD 113,779).

**Results:** Using data from index admission only, the ICER of \$SGD 0.03/QALY suggests control group is comparable to MH group with marginal ICER gained. Data from index admission to 90-day post-discharge results in ICER \$S 384,113.80/QALY, making MH the preferred strategy.

**Conclusions:** MH is a value-driven HAH alternative to Inpatient Care. Further analysis should be done to evaluate the factors associated with cost effectiveness to guide healthcare delivery strategies.

Keywords: cost effectiveness, Hospital at Home

# DEVELOPMENT OF HOSPITALS AT HOME AROUND THE WORLD : LESSONS AND PERSPECTIVES

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hospitals at Home (HaH) began in France in 1957 and have since expanded nationwide. By 2023, France had 281 HaH facilities, providing 7 million days of home hospitalization to 168,000 patients, primarily older adults. HaH activities focus on palliative care, pain relief, and complex wounds, with 10% occurring in nursing homes.Internationally, HaH initiatives have grown, especially post-COVID-19, with over 40 countries providing HaH by 2024. France, Australia, and Spain each offer over a million days of home hospitalization annually. New HaH programs leverage specialized logistics and technology from the start.

**Methods:** The study aimed to assess HaH development globally, comparing French HaH with international counterparts. French HaH adapts slowly to new technologies, while other countries offer insights for improvement. The study explored the reasons for HaH creation, priorities, organization, and tools used, aiming to share lessons with French authorities for future development.

**Results:** Data was collected through interviews with experts and literature reviews, covering HaH in about 40 countries. Three categories emerged: countries with established HaH frameworks, those accelerating HaH post-pandemic, and those with local/experimental HaH. A global trend shows HaH solutions driven by economic/resource constraints and pioneering doctors. Treatments are becoming more complex, with technologies like telehealth enabling hospital-level care at home.

**Conclusions:** The study also highlighted virtual solutions and the importance of physical care for patient safety. Nurses and advanced practitioners play a crucial role in scaling HaH.

**Keywords:** Hospitals at Home (HaH), palliative care, Nurses and advanced practitioners

# EXPLORING FACTORS INFLUENCING CLINICIANS' DECISION-MAKING IN REFERALS OF PATIENTS TO HOSPITAL-AT-HOME PROGRAMME: A QUALITATIVE STUDY

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hospital-at-home (HaH) is an inpatient substitutive care model that expands hospital capacity and addresses growing healthcare demands. Integrating HaH into mainstream healthcare delivery is essential for its success. A key determinant of scaling HaH programmes is clinical referrals from wards or emergency departments. To determine barriers and facilitators to clinical referrals, we investigated factors influencing clinician decisions to refer patients to HaH.

**Methods:** We conducted in-depth semi-structured individual interviews in English with eight clinicians (four emergency physicians and four internal medicine physicians) from the National University Health System in Singapore who have prior experience of referring patients to HaH. Interviews were transcribed verbatim and thematically analysed using Braun and Clarke's approach.

**Results:** Three overarching themes encompassing internal and external factors were identified: 1) clinician's personal and professional values about HaH care model, 2) patient selection and suitability, and 3) systemic and process-related considerations. The main clinician factors included clinician buy-in, positive attitudes and enthusiasm about HaH, and referral practices upheld by professional values. The key factors influencing clinicians' selection of patients were medical and clinical suitability, caregiver support, patient's technology competency, self-motivation, health behaviours, and well-being. Clinicians also considered resource optimisation with appropriate patient disposition and balancing between workload and systemic responsibilities.

**Conclusions:** The findings provide valuable insights into the factors influencing clinicians' decision-making in referrals of patients to HaH. These insights can enable tailored communications to promote clinicians' engagement in making referrals and guide workflow adaptations to address operational challenges of referral process, thereby supporting the successful scaling-up of the HaH programme.

Keywords: Hospital-at-home, Healthcare Professionals, Qualitative, Decision-making

# HOSPITAL-AT-HOME CARE IN SINGAPORE: A QUALITATIVE EXPLORATION OF HEALTH SYSTEM PARTNERS' STATE OF READINESS, AND POLICY AND IMPLEMENTATION STRATEGIES ESSENTIAL TO SUPPORT SCALE-UP

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Background: Hospital-at-Home (HaH) programs have proliferated in recent years to meet demands of an ageing population and global hospital bed shortages. Singapore has implemented its own version, Mobile Inpatient Care at Home (MIC@Home). However, despite the increase in HaH programs, many remain small, raising concerns about their scalability. Hence, a clear implementation strategy for HaH is needed. Aims To address the readiness of Singapore's health system partners to scale up HaH and what multi-level strategies are necessary for scaling HaH.

**Methods:** A descriptive qualitative study design using in-depth semi-structured interviews was used. Through purposive sampling, 32 participants (16 HaH clinicians, 11 enabling units, and 5 regulators) were recruited. The interviews were thematically analysed.

**Results:** The key themes were: (1) The perceived readiness to scale, focusing on stakeholder motivation and capacity; (2) The implementation strategies, highlighting the need for training, collaborations, and operational refinements; and (3) The policy strategies, addressing financial sustainability, governance, and regulation. Overall, the readiness for HaH in Singapore is high. Organizational alignment, partnerships, and adequate manpower are essential. Clinicians and patients must also be convinced of its value to increase acceptability of HaH. For policy-related strategies, financing policies should be adjusted to improve patient access. Fine-tuning governance over HaH clinicians and third-party providers, along with regulations to set minimum care standards, is crucial also required.

**Conclusions:** Conclusion: Despite the challenges of scaling, there is potential to enhance HaH through managerial support, governance, infrastructure, and stakeholder engagement. These findings can inform future HaH healthcare plans in widespread adoption.

**Keywords:** Hospital at Home, implementation science, stakeholder's perceptions, qualitative study

# EVALUATION AS A MEANS OF SUPPORTING IMPLEMENTATION OF A VIRTUAL CARE UNIT IN A LARGE ACADEMIC MEDICAL CENTER IN QUEBEC

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** The CHU de Québec-Université Laval (Canada) has recently launched a major program to offer alternatives to hospitalization, among which is the implementation of a virtual care unit (VCU). The VCU project involves clinicians and managers from various hospital sectors, under the leadership of the Nursing Directorate.

**Methods:** Evaluative research is being conducted to provide ongoing evidence to support decision-making throughout the project. This evolutive evaluation process includes a formative and a summative component, using a mixed methods case study design. Members of the evaluation team are involved in project team meetings and are called upon to respond to specific needs that emerge during the project. They developed a logic model that guides the evaluation activities and provides a set of indicators to assess progress toward objectives.

**Results:** The evaluation team shared the evaluation logic model and the proposed indicators with all partners, who were able to comment on it. They are also contributing to define needs in terms of technologies and to set up selection criteria for patients to be followed in the virtual care unit based on scientific evidence and consideration of the local context.

**Conclusions:** The VCU began operations in October 2024, and the evaluation team will help document the factors facilitating implementation, as well as the challenges and solutions implemented. The evaluation team will also monitor the clinical indicators and the experience of patients, informal caregivers and healthcare providers. An evaluation accompanying the major transformation project that is the VCU helps to create the right conditions for successful implementation.

Keywords: Virtual Care Unit, Hospital at Home, Evaluation, Decision-making

# HOSPITAL AT HOME ALPES DU SUD (IN FRANCE) ORGANIZATION AND DEPLOYMENT STRATEGY OF HOME HOSPITALIZATION IN MOUNTAIN AREAS.

### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** We covers an area of 7,500 km2 with 24 inhabitants/km2 (114 in Europe) with an hospital team of 24 professionals and 12 vehicles for 60 patients. The medical resource is disparate, more in cities, less in small villages and the geography complicates the logistical flows like small roads, snow, and deep valley. But, the medical objectives are the same than in a city. In a social level, Medical must be guaranteed and in an institutional level, economic efficiency must be ensured. Which leads us to a double goal.

**Methods:** We analyzed multiple factors (the territory, population needs, hospital resources, driving time .e.g.) to define an organization that meets our deployment strategy to reach the goals and to increase the service capacity.

**Results:** The 2025 project combined local resources, family doctors, private nurses, private pharmacies and hospital resources.

Hospital resources with 24-hour regulation, logistics and support missions centralized in the main hospital and a precise and interactive map of medical and paramedical resources available throughout the area.

Four private teams, doctors and nurses trained in home hospitalization, with telemedicine equipment directly linked to regulation, warehouse of hospital equipment and medications accessible 24 hours a day and support for financing training and equipment support by health authorities.

**Conclusions:** The main outcome is the increase of 25% per year and extending its scope of action. This strategy will allow us to respond to our home hospitalization mission with better medical and economic performance. Initial feedback from health authorities, professionals and populations is positive.

Keywords: Mountain, Disparate, Combined

# HACKENSACK MERIDIAN HEALTH HOSPITAL FROM HOME- COMPLEXITY BREEDS SUCCESS

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hackensack Meridian Health (HMH) is the largest and most comprehensive integrated health care network in New Jersey. In 2021, during the COVID-19 pandemic, HMH launched Hospital at Home. In April 2024, HMH relaunched their program with the Medically Home Group (MHG) as Hospital from Home (HfH), with goals of increasing scale, acuity, and geographic scope. The relaunch covered areas surrounding 3 hospitals, a geographic footprint of 5,887 square miles. Each hospital has unique payor mixes and hospital medicine groups. Given the complexities that came with this implementation, we will describe lessons learned, including the impact of facility-dedicated intake resources, development of a hybrid and redundant Service Provider Network (SPN), and targeted areas of overlap in services to support scale.

**Methods:** 90-days post-launch, we evaluated the use of intake resources by reviewing the program's average daily census (ADC), daily admission volumes, and compared volumes across facilities. Additionally, we assessed the strategy to build the SPN.

**Results:** HfH exhibited increasing programmatic average daily admissions, ADC, and ADC from each hospital. They outpaced their previous 2-year admission total. Challenges were encountered in finding external resources to meet organizational standards. Thus, we insourced resources to support scaling therapies, home health aides, phlebotomy, and transport. This blended in-home clinician offering allows for 24/7 care coverage across the geography.

**Conclusions:** HfH was a complex implementation, involving multiple hospitals and provider groups, offering learnings to other programs. Site-specific intake resources promote workflow efficiencies and cultural familiarity, supporting programmatic growth. A hybrid SPN offers scalable efficiencies for reliable safe care delivery.

**Keywords:** Hospital at Home, Implementation, Service Provider Network, scalability, Program Growth

# LATEST EXPANSION OF SH&SCT HAH SERVICE 2023 TO ASSIST WITH STABILISATION OF LOCAL HOSPITAL.

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** A presentation by Team Manager demonstrating the recent expansion of our HAH service showing growth of the active caseload, incorporating a gate keeping triage function to negate access to a range of medical inpatient beds in a local hospital at risk of collapse, as well as making use of virtual monitoring, increased POCT diagnostics and in-reach case finding by the team into the hospital.

**Methods:** The presenter will showcase how this was timely planned and implemented using a QI approach with robust data collection. Continue to challenge the status quo, being innovative and always planning the next project to evolve and grow. The presentation will showcase strategic drivers, baseline data, QI techniques, what we did and how we did it with outcomes and evaluation data.

**Results:** An increased caseload from approx 30 active patients daily to 45 active patients daily within the first 6 months of the project and up to 60 active patients daily by 12 months to keep this cohort of patients out of hospital or facilitating earlier discharge from hospital. Increased patient satisfaction collection using care opinion feedback and patient focus groups.

**Conclusions:** In conclusion, this project highlights that in existing financial pressures, a review of current resources and processes within the wider organisation can be reconfigured into a HAH service to aide expansion and alleviate bed pressures in a local hospital.

Keywords: expansion, quality care, bed pressures, Quality Improvement, innovation

# MAPPING PATIENT CHARACTERISTICS AND THE ORGANIZATION OF HOSPITAL AT HOME PROGRAMS IN SCANDINAVIA FOR THE CONTINUOUS TREATMENT OF ACUTE ILLNESS: A SCOPING REVIEW

### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Healthcare systems are under pressure worldwide due to aging populations. One alternative solution is Hospital at home (HaH). There is limited evidence describing HaH programs within the Scandinavian context. Furthermore, many HaH systematic reviews focus on specific illnesses or alternatives to admission with broader interventions without elaborating on the intricacies of the organisations or patient characteristics. Health planners responsible for HaH programs require clearer evidence from a Scandinavian context to implement the most effective and safe HaH model for patients and their caregivers. Information is needed about the patients and services in Scandinavia that benefit from HaH programs. The aim is to map the components of Scandinavian HaH programs including patient characteristics and organisations.

Methods: This scoping review includes Scandinavian studies of adults ≥18 years participating in HaH. HaH is defined as those who have experienced the onset of an acute medical illness requiring emergency care with initial contact with an emergency department (<24 hours), out of hours doctor or a general practitioner, and who are subsequently admitted to HaH program under the medical responsibility of the hospital. Searches will be conducted using the databases Medline (Ovid), Embase (Ovid) and CENTRAL (Cochrane) with limited searches in grey literature. Results will be presented in tabular format describing the characteristics of different studies.

**Results:** We expect to present an overview of HaH models used in Scandinavia and identify which patients can benefit from HaH.

**Conclusions:** This review will provide insights to assist health planners and researchers to plan and implement general and specific HaH solutions.

Keywords: Hospital at Home, scoping review, organisation

# SCALING HOSPITAL AT HOME: POLICY, ECONOMIC, AND ORGANIZATIONAL ENABLERS FOR SUSTAINABLE IMPLEMENTATION

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Delivering healthcare in patient homes requires more than technology. It demands transformation of policy, economic frameworks, and organizational structures to enable substitution of acute inpatient care with Hospital at Home (HaH) models. Drawing on insights from European projects such as DS4Health, Smart4Health, SmartBear, ICU4COVID, HoloBalance, TeleRehab, and the Madeira Digital Health and Wellbeing initiative, this work identifies policy, economic, and organizational strategies to align systemic enablers with HaH implementation.

**Methods:** Madeira Digital Health and Wellbeing serves as a European reference, demonstrating how regional policies, government leadership, and health authorities synergize to support HaH. Madeira's approach addresses geographic and logistical barriers, particularly on smaller, remote islands like Porto Santo, where ICU4COVID project extended critical care via telemonitoring. Through a co-creation process with stakeholders, the project identified future needs for European Telehealth Network policy to support HaH. Porto Santo exemplifies how HaH mitigates isolation challenges by delivering continuous, high-quality care at home, avoiding unnecessary transfers to central hospitals while reducing healthcare costs.

**Results:** Economic sustainability is key, with Smart4Health and SmartBear optimizing resources and decision-making through interoperable platforms. HoloBalance and TeleRehab provide cost-effective rehabilitation for vulnerable populations, while DS4Health equips healthcare professionals with digital skills to operationalize HaH effectively. These efforts ensure HaH delivery aligns with policy frameworks and creates a skilled, adaptable workforce.

**Conclusions:** By bridging policy, economic incentives, and organizational strategies, this blueprint demonstrates how regional innovation and European collaboration enable hospitals to transform into entities capable of delivering acute, hospital-level care at home, improving access and outcomes for remote and isolated communities.

**Keywords:** Hospital at Home (HaH), Policy Transformation, Economic Sustainability, Interoperable Platforms, remote care

# HOSPITAL-AT-HOME CARE IN SINGAPORE: DISTILLING POLICY AND IMPLEMENTATION STRATEGIES ESSENTIAL TO SUPPORT SCALE-UP USING POLICY LABS

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** The Mobile Inpatient Care at Home (MIC@Home) initiative was implemented as a promising solution to address challenges brought about by rising demands of hospital services. This study explored key strategies that could be translated to tangible action plans to enhance the implementation and policy readiness necessary to effectively expand MIC@Home in Singapore.

**Methods:** This study unpacked a series of implementation and policy dimensions through an innovative and participatory policy lab method. Data were collected through three independent policy lab sessions. Findings were analyzed to understand implementation and policy complexities, identify and prioritize strategies for MIC@Home scaling, and inform action plans for implementation improvements and policy deconstraining.

**Results:** The findings highlighted several priorities. First, strategic partnerships to drive collaborations among healthcare stakeholders were needed. Establishing a community of practice to replicate best practices within the MIC@Home community was considered. Second, human-resource strategies were identified as crucial components, including the formation of dedicated MIC@Home care teams and attracting clinicians through incentives. Operational efficiency can be achieved through effective resource allocation strategies, centralizing logistics, and integrating technology. A cultural shift towards proactive MIC@Home care was advocated, with initiatives targeting clinicians and patients. Finally, integrating MIC@Home into current and future payment models could address financial barriers and long-term uncertainties.

**Conclusions:** This study offered valuable insights into the challenges and strategies affecting the MIC@Home model's scalability, highlighting critical domains for implementation and policy redesign. By addressing the identified challenges through targeted strategies, Singapore could champion the MIC@Home model as a viable and sustainable alternative to traditional inpatient care.

Keywords: policy, Hospital-at-home, implementation science, strategies

# DEVELOPING A NOVEL PROTOCOL FOR HOSPITAL AT HOME AT A TERTIARY MEDICAL CENTER IN TAIWAN

### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hospital at Home (HaH) offers a patient-centered alternative to traditional hospitalization, reducing complications and aligning with home-based care preferences. In Taiwan, HaH is novel, prompting Chi Mei Medical Center to establish a multidisciplinary protocol addressing the needs of a super-aged society.

**Methods:** Led by the superintendent and the Integrative Medicine Center, a multidisciplinary team developed a protocol involving emergency medicine, geriatrics, pulmonology, infectious disease, nursing, pharmacy, and medical administration, supported by IT, radiology, and transportation services. The protocol included three models: (A) existing home care patients, (B) residents in long-term care facilities, and (C) patients discharged from the emergency department (ED). Key innovations included on-site diagnostics, telemedicine integration, and tailored workflows for home-based IV antibiotic therapy.

**Results:** Since its launch in August 2024, 58 patients joined the HaH program, achieving a success rate of 96.6%, with only two requiring rehospitalization (3.4%). Diagnoses included pneumonia, urinary tract infections, and soft tissue infections. Patient and family satisfaction was 100%. The program significantly reduced ED crowding and hospital bed shortages.

**Conclusions:** This pioneering HaH protocol demonstrates the feasibility and effectiveness of integrating multidisciplinary care within a tertiary medical center. The Chi Mei experience offers a scalable model for HaH implementation in Taiwan and globally, especially in aging societies.

Keywords: emergency department, Hospital at Home, Taiwan

# WHAT'S IN A NAME? THE 'VIRTUAL WARD' VS 'HOSPITAL AT HOME' UK DEBATE POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** In 2021 NHS England announced its virtual ward (VW) programme, to deliver acute care to home-based patients using technology. The terminology of VWs was not in line with the WHAHC hospital at home (HaH) definition.

**Methods:** 30 semi-structured interviews were conducted with clinicians and managers about terminology.

**Results:** Clinicians and managers had conflicting views on the definitions of HaH and VWs that broadly fell into three main categories. VW are more defined than HaH: 'there's a bit of confusion, kind of my understanding of a virtual ward as what it should be is that it's an alternative to bedded hospital care... Hospital at home is a bit more nebulous.' – system manager VW and HaH are the same: 'when you listen to National Virtual Ward webinars and people talk about Hospital at Home or Virtual Ward, they're all blurring into one and one and the same thing.' – Service clinician HaH are more acute versions of VW: 'if you think about the evolution of virtual wards, it actually ought to evolve into having some hospital at home. So slightly more intensive variants on the virtual ward basis'- Service clinician

**Conclusions:** The differing terminology used in England has caused confusion for services implementing new HaH or VW models. The UK HaH Society released a statement regarding this terminology in August 2024. This situation demonstrates the need for HaH communities to work with policy-makers and government. Where this doesn't happen it causes delays in service development.

Keywords: virtual wards, Hospital at Home

# ASSESSMENT OF THE IMPLEMENTATION OF HOSPITAL-AT-HOME CARE MODEL: MIC@HOME

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** MIC@Home is a pilot Hospital-at-Home program implemented in Changi General Hospital, Singapore. It provides an alternative to inpatient care by providing treatment to patients at home. However, little is known about factors influencing its implementation in Eastern part of Singapore. This study aims to understand the barriers and facilitators to the implementation of MIC@Home.

**Methods:** We conducted semi-structured interviews based on the Exploration, Preparation, Implementation, and Sustainment (EPIS) framework. Providers (clinicians, allied-health practitioners, coordinators, ancillary staff) and users (patients and their caregivers) were included. In every interview, related experiences with the implementation of MIC@Home and delivery of service were discussed. Interviews were transcribed, coded, and analysed using Dedoose software.

**Results:** 9 providers and 19 users were interviewed. High inpatient bed utilization rate was a significant motivator for provider and leadership support of MIC@Home and was a primary factor affecting patients' enrolment decision into MIC@Home, along with caregiver and self-care efficacy. Implementation was accelerated by leveraging on the manpower and workflows of existing community health services. However, problems frequently arose from uncertainties with financial policies, provider roles, and logistics, each requiring improvised solutions. Participants generally agree that MIC@Home aligns well with Singapore's healthcare needs, with disagreement on its value-cost compared to an inpatient hospitalization.

**Conclusions:** Although MIC@Home requires more clarity and fine-tuning of its operational processes, it fits well with the needs of its stakeholders and the public it serves. With polar views regarding the perceived value of MIC@Home, more research on the perspectives of MIC@Home from users and referring providers is needed.

Keywords: Implementation, Hospital-at-home, Barriers, Facilitators, EPIS

# HOME CARE MODELS IN IBERO-AMERICA: ANALYSIS OF REGULATIONS, PROVIDERS, AND SERVICE QUALITY

### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hospital at home (HAH) is a growing healthcare model in Ibero-America, yet its implementation varies widely across countries. This study aims to evaluate regulatory frameworks, service provision, and quality assurance measures, supporting international cooperation through ASIADES (Ibero-American Association of Home Healthcare). Such research is vital to establish common standards and foster innovation, equity, and knowledge exchange.

**Methods:** A survey was conducted in five countries (Colombia, Brazil, Chile, Argentina and Spain) with professionals with senior roles in hospital at home. The survey examined 32 items related to regulations, financing, service models, technology integration, quality standards and training. National representatives ensured consensus in responses in each country.

**Results:** There were 15 responses. The respondents stated that there is significant variability in regulatory clarity, with many countries lacking standardized frameworks. Public hospitals lead HaH in Spain, while private companies dominate in Latin American countries, providing also homecare and chronic disease management. In public-dominated systems, primary care often manages these services. Respondents identified gaps in training and technological integration, such as tailored electronic medical records, as key priorities. Organizations implementing safety protocols and risk management measures were noted for improving quality.

**Conclusions:** Findings highlight the need for stronger regulations, enhanced training, and targeted technological innovation. International collaborations, like those fostered by ASIADES, are critical for addressing shared challenges, promoting common

standards, and advancing equitable, sustainable hospital at home models across Ibero-America.

**Keywords:** Hospital at Home, Home Care, Regulatory frameworks, Service quality, international collaboration

# NHS ENGLAND'S HOSPITAL AT HOME PROGRAMME – TRANSITIONING FROM POLICY TO PRACTICE TO TREAT 600,000 PATIENTS

#### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Between 2022 and mid 2024 600,000 people were treated in hospital at home services (also known as virtual wards in the NHS) across England and 10,000 'beds' of capacity delivered. This poster will outline how the NHS achieved this implementation across the whole of England. It will consider, how infrastructure was developed including measurement, the workforce supported, lessons learned and how unwarranted variation is being addressed through clinical peer review.

**Methods:** Community of practices: NHSE host a nation-wide learning network attracting hundreds of service leads online to share insights and best practice, answer questions and coproduce guidance and key messages. Evaluation, monitoring and research: NHSE has invested heavily in monitoring infrastructure to track service development, ten rapid evaluations, large-scale qualitative evaluation with patients and carers and a national quantitative evaluation. Clinical Peer Review 70 services have been reviewed through clinical peer review process - aiming to review majority by 2025 yielding vast amounts of intelligence to support benchmarking and improvement through analysing trends, developing resources to drive effectiveness.

**Results:** Practical lessons learned and recommendations will include key lessons on how to : Form the clinical and operational case resulting in a national Framework for all services to follow Making the economic case Implementation theory of change Building national and local infrastructure Theory of change, monitoring, evaluation Future proofing

**Conclusions:** This programme offers a key opportunity to share the key ingredients for what works well across the clinical and operational spectrum as well as lessons learned and to pitfalls to be avoided.

**Keywords:** Implementation, scale, clinical effectiveness, evaluation and research, policy

# SUMMARY OF SOUTH EAST REGION HOSPITAL AT HOME/VIRTUAL WARDS EVALUATION: IMPACT ON ADMISSIONS AND FINANCIAL IMPLICATIONS

### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hospital at home services (also known as virtual wards in England) allow patients to safely receive hospital level care at their usual place of residence, including care homes. These services aim to improve patient experience and outcomes, and narrow the gap between demand and capacity for hospital beds, by either preventing avoidable attendances or reducing length of stay through early discharge. This independent evaluation was commissioned by NHS England South East region. The evaluation analysed a total of 29 virtual ward pathways in the South East, which equated to 49% of their overall capacity at the time of analysis.

**Methods:** The evaluation independently assesses HAH effectiveness, employing a structured methodology using Treasury's Magenta Book 3-stage evaluation guidelines. 1. Process evaluation 2. Impact evaluation 3. Cost-benefit evaluation

**Results:** Number of HAH wards analysed- 29 Percentage of all HAH admissions in the South East admitted analysed as part of this evaluation-64% Total annualised HAH admission avoidance admissions- 22,794 Estimated avoided non-elective admissions per year - 9,165 Estimated gross benefit per annum associated with admission avoidance admissions of HAH analysed- £24.5 million Estimated gross cost per annum associated with admission avoidance admissions of HAH analysed- £14.2 million Estimated net benefit per annum associated with admission avoidance admissions of HAH analysed- £10.4 million

**Conclusions:** There is evidence of a a positive impact on non-elective (NEL) hospital activity There is evidence of positive net financial benefits associated with the regional virtual ward provision od £10 million

Keywords: Frailty, admission avoidance, economic evaluation, Virtual Ward

# HOSPITAL @HOME SELF-REFERRAL: A PILOT OF A NEW PATIENT-CENTRED REFERRAL PATHWAY

#### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** GSTT@Home provides acute/semi-acute care for adults in their own homes across two London boroughs, serving a diverse population of 600,000. Many patients and carers express a preference for hospital@home care over inpatient care. Traditionally, referrals were only accepted from healthcare professionals. However, due to difficulty accessing gatekeeper services, many patients resort to emergency departments, leading to inpatient admission. To provide more patientcentred care, we designed a self-referral pathway for patients known to GSTT@home. We present pilot results and two cases studies.

**Methods:** After index "admission", patients at high-risk of re-presenting are identified and given direct contact details of our team. When patients/carers identify early signs of deterioration for index condition, they contact triage nurses directly. They are assessed similarly to referrals from healthcare providers, and accepted for assessment within 2 hours, or referred elsewhere as appropriate.

**Results:** 3 patients & 6 carers used pathway in the first 4 months. Median age: 68.1 (29 – 91) Index Conditions – Infection (likely needing intravenous antimicrobials): Urinary tract, cellulitis, aspiration pneumonia (case 1), osteomyelitis; heart failure, delirium, Hyperemesis Gravidarum (case 2). Reason for re-referral: 9 same as index - 5 accepted, 4 rejected (2 - signposted elsewhere, 1 assessed as too acutely unwell for hospital@home, 1 no service capacity)

**Conclusions:** Our pilot demonstrates that patients and carers can appropriately use the pathway to receive timely hospital@home care. If inappropriate, patients were successfully sign-posted elsewhere. However, the pathway is currently under-utilised; Our next steps include feedback from staff and service-users, and increasing staff awareness, to identify greater numbers of appropriate patients.

Keywords: Hospital@Home, Self-referral, patient-centred care, Autonomy

# FROM HOSPITAL TO HOME - TRANSLATING A MODEL OF CARE INTO PRACTICE

# POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** As Hospital at Home (HaH) initiatives become more common the purpose of this study is to learn from existing initiatives to better understand how to initiate, design, and roll-out HaH. However, in implementation science there is agreement on the necessity to translate rather than copy organisational innovations between contexts. In this case, that innovation concerns the switch from providing care in hospitals to doing it in patients' homes.

**Methods:** The purpose is addressed by a qualitative study of three clinical HaH initiatives in a Swedish hospital. By studying one of Europe's largest university hospitals' early stage HaH initiative, this study contributes to the understanding of the translation journey when hospital-wide HaH initiatives are initiated from a clinical and management level simultaneously.

**Results:** Each case illustrates different aspects of translation and implementation of HaH. It was for example found that there is a perceived dichotomy between cost effectiveness and quality, which highlights a need for organisation-wide and enduring change management work. It was also found that mandate delegation and knowledge sharing between hospitals can foster a grassroots movement towards HaH before it is even considered as a part of the hospital-wide strategy, which in later stages nevertheless creates a need for alignment between clinical and strategic initiatives. It also became clear that not only are there different preferred ways of implementing HaH between professions, but also between departments in the same organisation.

**Conclusions:** By presenting these three cases, we showcase that HaH implementation benefits from a combined top-down/bottom-up implementation.

**Keywords:** Implementation, Case study, Strategy alignment, Change management, Hospital at Home

# COST-EFFECTIVENESS OF INFLUENZER – TELEMEDICINE SUPPORTED EARLY DISCHARGE HOSPITAL AT HOME COMPARED WITH CONTINUED IN-HOSPITAL ADMISSION FOR ACUTELY AND CHRONICALLY ILL PATIENTS

### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hospital-at-home (HaH) for early discharge may be a costeffective alternative to in-hospital stay. However, high-quality studies that include costs of staff time, technology, setup, monitoring and resources for adverse effects and readmissions are lacking. This study aims to evaluate the cost-effectiveness of a telemedicine-supported early discharge HaH intervention compared to continued inhospital admission.

**Methods:** This study based on an RCT compared specialized hospital treatment at home with usual in-hospital care. We applied a societal and healthcare perspective over a 3-month period. Data on healthcare resource use and costs, productivity costs, utility values and QALY were collected via trial registrations, electronic health records and questionnaires. Mean values were compared between groups and differences in healthcare costs were analysed, and reported for crude and adjusted models. Qualityadjusted life years (QALYs) were derived from the 5 level EQ-5D instrument. The incremental cost-effectiveness ratio was determined by incremental costs and QALYs, and overall uncertainty of the incremental cost-effectiveness ratio (ICER) evaluated by probabilistic sensitivity analysis.

**Results:** Preliminary results will be presented at the conference, including comparisons of mean costs and QALYs between the groups. Crude and adjusted models of health care costs, as well as the incremental cost-effectiveness ratio, will be discussed.

**Conclusions:** This study evaluated whether a telemedicine-supported early discharge hospital-at-home model may offer a cost-effective alternative to in-hospital care, pending further analysis of the incremental cost-effectiveness ratio and sensitivity analyses.

Keywords: Cost-effectiveness, telemedicine, staff time, productivity costs

#### **'TRUE' SUBSTITUTION – GROWING HOSPITAL IN THE HOME**

#### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Alfred Health is one of Australia's leading healthcare services providing care for Inner Southern Melbourne and a range of statewide tertiary and quaternary services. Alfred Health has set itself a target to achieve 30% substitution of care from admitted models to community and providing care that is equivalent to (or exceeds) what is provided in inpatient settings by December 2026.

**Methods:** Alfred Health adjusted its governance model for three pilot units: Geriatric Medicine, General Medicine and Rehabilitation. With strong partnership across administrative and clinical leadership these new streams of care oversee services spanning hospital, home and centre settings. Stream managers and clinicians were provided with agency to adjust resources across settings and build capability to provide care where it bests meets patient needs.

**Results:** FY23/24 performance approached or exceeded target with 24% of Geriatric Medicine and 32% of all Rehabilitation admissions taking place in the home (from 2018/19 baseline of 8%) in the context of a combined reduction in overall bed days of 28%. General Medicine commenced their reform in FY22/23. FY23/24 saw 11% of admissions in the home (from 2018/19 baseline of 5%). Quality, patient and staff experience, clinical outcomes, and access times were maintained and, in some cases, improved.

**Conclusions:** Home based care can be implemented as a true alternative to hospitalbased care that achieves better results for patients and the health system. Alfred Health adopted an integrated approach to clinical and operational governance whereby units take accountability of care for their patients across hospital, home and community settings.

Keywords: substitution, home-based, governance

# THE GROWTH IMPERATIVE: ADDRESSING THE CHALLENGES OF SUSTAINABLY SCALING ADVANCED CARE AT HOME PROGRAM

#### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Over the past 5 years, many organizations across the world have embarked on establishing Hospital at Home (HaH) programs. As these programs have matured, many of them are confronting the same question – how do I transition my program from a startup to a program that is sustainable from a clinical, organizational, and financial perspective? The long-term viability of these HaH programs is dependent upon addressing this question. The session will support programs in this phase of development, accelerating their journey to sustainability, by sharing the lessons learned from scaling the KP Northern California Advanced Care at Home (ACAH) program.

**Methods:** Understand the key challenges and opportunities in transitioning from an early-stage startup to a sustainably scaled program. Learn from the experiences of the Kaiser Permanente Northern California (KPNC) ACAH program regarding scaling efforts over their first five years, including successes, missteps, and best practices. Identify strategies for effective program management, resource allocation, and stakeholder engagement. Explore innovative approaches and technologies that can enhance the scalability and efficiency of programs while maintaining high-quality patient care. Discuss the importance of continuous learning, adaptation, and quality improvement in the ongoing development and scaling of programs.

**Results:** are high quality patient outcome relative to external benchmarks. Program scale that has achieved long term financial viability.

**Conclusions:** To develop a high qualiity, sustainable program, organizations must place an upfront investvest in the core infrastructure necessary to safely operate the program and rapidly accelarate growth. This upfront investment must be paired with intentional change management strategies.

Keywords: scalability, infrastructure, Quality, Change management

# CHOOSING WISELY: DON'T KEEP A PATIENT IN A BRICKS AND MORTAR HOSPITAL BED WHEN THEY CAN BE TREATED ON A HOSPITAL AT HOME

## POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Hospital at Home (HAH) is a safe and cost-effective alternative to traditional hospital care. Countries with well established HAH programs site this model as essential to providing high quality care that contributes to healthcare system sustainability. However, awareness of HAH varies globally, requiring a unified advocacy strategy, coupled with sustainable funding, governance and quality standards. The Canadian Hospital at Home Working Group (CHAHWG) conducted a literature review to develop consensus guidelines aligned with the Choosing Wisely Campaign that advocates for value-based care and reduction of unnecessary care.

**Methods:** A systematic review of Medline literature focused on HAH, excluding terms related to non-medical acute care, yielding 74 papers on patient outcomes, 51 on healthcare utilization, and 43 on experience. No papers specifically addressed equity, though secondary outcomes were noted. Findings were categorized according to the Quintuple Aim, with recommendations being developed using the GRADE methodology.

**Results:** Preliminary findings suggest that HAH programs reduce adverse outcomes, lower mortality, and enhance patient experience compared to traditional hospitalization for medical inpatients. HAH fosters collaborative care, empowering patients and caregivers. Although initial investments are required, HAH typically reduces acute care costs by 15-20% due to decreased resource use. CHAHWG consensus recommendations incorporating the literature review and aligned with the Choosing Wisely campaign are being finalized.

**Conclusions:** This review aligns with the Choosing Wisely campaign by presenting HAH as an effective alternative to "unnecessary care" in traditional hospitals for eligible inpatients. HAH demonstrates clear benefits for patients and the healthcare system, advocating for broader adoption through a value-based approach.

Keywords: Choosing wisely, Hospital at Home

#### **HOME FIRST - HOSPITAL IF NECESSARY**

#### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Sahlgrenska University Hospital has 12 mobile units specialised in internal medicine or geriatric care and our focus has mainly been on avoidable admissions. During the covid-19-pandemic we initiated a cooperation with our ambulance services in order to avoid hospital admissions.

**Methods:** We urged the nurses from the ambulance service to call our mobile units whenever they thought that a patient might benefit from care at home instead of being brought to the hospital. The collaboration that started as a pilot in 2020 was succesful and in mars 2023 we extended the collaboration to the the Alarm Central. Instead of sending out an ambulance they are urged to contact our mobile units to make an acute visit to se if care at home would be more appropriate.

**Results:** In 2024 our twelve units made 8316 home visits; 2373 visits was on acute demand from either an ambulance nurse or the alarm center. The majority of those (1976 patients) could get their care at home. Besides the benefits for the patients the economic impact for the hospital is huge. Otherwise they would have visited the Emergency Departmant (365 €) and 50 % of them would have been admitted to a ward with a length of stay of at least 5 days for a cost of 914 €/day. Without this way of delivering care our costs would have been 5.2 million € more.

**Conclusions:** The collaboration between the mobile units, the ambulance services and the alarm central is crucial to meet the demographic challenge.

Keywords: avoidable admission, health economics, ambulance cooperation
# THE CARE@HOME INITIATIVE IN SWITZERLAND – DEVELOPMENTS, EXAMPLES AND PERSPECTIVES

#### POLICY, ECONOMIC AND ORGANISATIONAL ASPECTS

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**Background and Aims:** Switzerland has one of the best and most expensive healthcare systems in the world. Despite calls for integrated care models, progress has been slow. Inpatient and outpatient providers often lack efficient, patient-centred and cost-effective collaboration. Care@home (C@h) models offer an opportunity to shift from predominantly inpatient to predominantly outpatient care. C@h models that aim to prevent hospital admissions, reduce hospital stays or ensure timely access to healthcare in rural areas. Recognising this, the Medical Task Force of the Canton of Berne has established the first national C@h Competence Centre, led by researchers at the Berne University of Applied Sciences. From the outset, this centre is working with healthcare professionals, insurers and industry partners.

**Methods:** The Canton of Berne funds the evidence-based development, testing and implementation of C@h models. Each year, interdisciplinary research projects are funded to develop systematic knowledge of the conditions for the success of C@h models and to investigate their mechanisms of action and patient outcomes. Researchers will work with stakeholders in professional development, financing models, digital technologies and patient and family care to understand how C@h models can be successfully implemented at scale in Switzerland. A citizen science community will be launched in 2025.

**Results:** The Swiss approach and its innovative elements will be presented at the conference, providing insights into the first two years of development and national establishment of the C@h Centre of Excellence.

**Conclusions:** Practical, research, educational and political implications will be discussed.

Keywords: Care@home, Research, Implementation, patient

#### **ESSENTIAL NURSING KIT OF HOSPITAL AT HOME**

#### **QUALITY AND SAFETY**

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**Background and Aims:** Home hospitalization allows hospital care to be provided at patient's home, offering personalized and effective attention. In this context, the nurse's role is essential, as they must ensure the quality of services through the use of specific materials and equipment. To do this, the nurse provide materials that allow comprehensive and safe care, adapting to the individual needs of each patient in their family environment while maintaining the quality standards of the hospital setting. Objective: To ensure the correct transmission of information about the work kit to nurses who are new to the Home Hospitalization service, we find it necessary to create a support document (guide) that encompasses the basic material required to guarantee home care in case of an unforeseen event.

**Methods:** A document is created based on the professional experience of service workers according to the general needs of the type of patient we attend to.

**Results:** This document provides a guide to the necessary materials, ensuring that all professionals work under the same standards and aiding in the quick and effective integration of new team members.

**Conclusions:** Good material planning makes us more efficient as it leads to the optimization of time, avoiding delays in patient care. It facilitates the proper preparation of materials, minimizing errors that could affect the quality of care.

Keywords: kit, Nurse, Hospital at Home

# COST-EFFECTIVENESS OF HOSPITAL-AT-HOME MANAGEMENT OF DENGUE FEVER AT SINGAPORE GENERAL HOSPITAL

# **QUALITY AND SAFETY**

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**Background and Aims:** Dengue fever, an endemic mosquito-borne illness in tropical regions like Singapore, is primarily managed through supportive care. This study evaluates the safety, clinical outcomes, and cost-effectiveness of a Hospital-at-Home (HaH) program for dengue fever management.

**Methods:** The study included all dengue patients requiring hospital-level care enrolled in the HaH program from July 2022 to March 2024. A control group consisted of eligible patients who declined HaH enrolment and remained hospitalized. Oral hydration was encouraged for all HaH patients, with intravenous (IV) fluids administered only for poor oral intake, vomiting, or hypotension. The study compared patient length of stay, volume of IV hydration, and total hospital bills between the HaH and control groups.

**Results:** Out of 71 patients, 39 were enrolled in the HaH program, and 32 remained hospitalized. The average day of illness upon enrolment was 5.95 for the HaH group and 5.09 for the control group (p=0.345). HaH patients received significantly lower volumes of IV fluids (0.2436 vs. 1.7722 liters/day, p=0.0001). The average length of stay was similar between groups (4.3 vs. 4 days, p=0.5384). Two HaH patients required readmission due to persistent hypotension and a flare of rheumatoid arthritis. The mean hospitalization bill per day was comparable between the HaH and control groups.

**Conclusions:** There was no significant difference in length of stay between the HaH and control groups, indicating that HaH can achieve similar clinical outcomes to inpatient care. HaH is a safe, cost-effective alternative for managing dengue patients requiring hospital-level care.

Keywords: Dengue Fever, Hospital-at-Home Management, Dengue Fever Management

# THE IMPORTANCE OF INTERNATIONAL QUALITY ACCREDITATION IN VHI HOSPITAL@HOME SERVICE TO ENSURE STANDARDISED HIGH QUALITY CARE PROVISON.

#### **QUALITY AND SAFETY**

<u>Aoife Bland</u>, Catherine Ginnell, Jennifer Addley Vhi Hospital@Home, Waverley Office Park, Dublin, Ireland

**Background and Aims:** Vhi Hospital@Home was established in Ireland in 2010 with a small community team providing acute care to patients in their own home. This new service, with a strong supporting management team, set out to deliver high quality, safe and effective patient care. JCI Accreditation under the JCI Homecare standards (first addition) was first achieved in 2013 (first Homecare service to achieve JCI standard in Europe) and has been retained 3 yearly ever since. The aim of JCI accreditation is to assure high quality evidenced based care, aligning Vhi Hospital@Home with internationally recognised benchmarks. The Quality Improvement and Patient Safety Programme is developed, reviewed, and communicated on an annual basis.

**Methods:** Vhi Hospital@Home aligned to the JCI Homecare standardas and this forms the Quality framework within the service. Vhi Hospital@Home follows the quality cycle of Plan, Do, Check, Act. This involves monitoring all quality management and patient safety inputs and outputs against set KPIs, with the purpose of not only ensuring the quality of care but also aiming to continually improve it.

**Results:** Developing a culture of transparency and openness has been a key element of our success. Achiving JCI accrediation on a three year cycle ensures Vhi Hospital@Home maintains it's high quality standards and continuoulsly aims to improve the quality service it provides.

**Conclusions:** A structured quality programme is essential to any Hosiptal@Home service and having an internationally recognised Accreditation improves patient experiences and outcomes as well as giving confidence to referrers to usilise the service.

Keywords: Quality, Accreditation, Quality Programme, international

# SUPERVISED MACHINE LEARNING ALGORITHMS FOR COVID-19 PATIENTS ADMITTED TO HOSPITAL AT HOME (HAH)

#### **QUALITY AND SAFETY**

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**Background and Aims:** To apply and compare different supervised machine learning classification algorithms to assist in decision-making regarding admission of COVID-19 patients to HAH.

**Methods:** Blood biomarkers (IL6, TnT-Hs, CRP, Ferritin and D-dimer) were analyzed in patients admitted to our HAH with a diagnosis of COVID-19 from a previous admission to the Germans Trias i Pujol University Hospital, from March 13, 2020 to 2022. 871 patients were admitted. Of these, 840 had a favourable outcome while 31 needed to be readmitted to the hospital. Supervised machine learning classification algorithms (Bagged Trees, Naïve Bayes, K-Nearest Neighbors (KNN), Linear Discriminant and Logistic Regression) were implemented to evaluate the predictive capacity of readmission to conventional hospitalization from HAH.

**Results:** Sensitivity indicates the proportion of patients readmitted to conventional hospitalization who are correctly classified as readmitted patients. The two algorithms that show the best response are Bagged Trees (sensitivity = 71.75%) and Naïve Bayes (sensitivity = 63.96%). According to the sensitivities obtained, applying the Bagged Trees algorithm, 7 out of 10 patients could be correctly identified, avoiding an earlier than expected discharge to HAH. figure - Application of artificial intelligence algorithms for the prediction of patients who will require readmission to conventional hospitalization

#### from HAH



Mean accuracy = 46.54 % Mean sensitivity = 33.70% Mean specificity = 52.31 %



**Conclusions:** The implementation of predictive algorithms using machine learning can help in the decision to accept a patient's admission to HAH. For this specific application, the Bagged Trees algorithm is the best for identifying patients at risk of requiring readmission to conventional hospitalization. This algorithm is robust to training using small sample sizes.

Keyword: COVID-19, Hospital at Home, machine learning

# HARMONIZATION OF PRACTICES FOR CENTRAL VASCULAR ACCESS IN HOSPITAL AND OUT-OF-HOSPITAL SETTINGS: A CHALLENGE FOR QUALITY CARE ?

## **QUALITY AND SAFETY**

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**Background and Aims:** In the canton of Geneva, there are both a private and a public multipurpose adult home hospitalization (HAD) structure. These structures do not have on-call physicians and are not hospital-dependent. However, the Geneva University Hospitals remain the main contractor. To meet the challenges of the current healthcare system, the HADs are managing a wide variety of care types with an increasing volume and growing complexity of equipment, particularly central vascular access devices. Moreover, the plurality of prescribing physicians, the absence of a shared electronic patient record, organizational differences between hospital and out-of-hospital settings, and a lack of understanding of professional realities complicate the patient pathway. In response to the divergence of environments and practices surrounding central vascular access, the goal is to create a smooth and safe patient pathway within both hospital and out-of-hospital settings.

**Methods:** An interinstitutional multidisciplinary working group has been created and meets several times a year. The identification of each party's needs and constraints has highlighted the priority actions needed to ensure patient safety and quality of care. These actions have been divided into working subgroups.

**Results:** Creation of a common transfer sheet to ensure continuity of care Implementation of an intra-hospital flow for managing obstruction issues from home care Identification of key responding resources (referring physicians) Development of common practices based on evidence-based practices

**Conclusions:** The various elements outlined in the "Results" section of this abstract will enable the development of a patient pathway and common practices for central vascular access between the hospital and home care settings.

**Keywords:** patient pathway, central vascular access, quality and safety, Continuity of Care, clinical pathway

# INFECTION PREVENTION AND CONTROL IN HOSPITAL-AT-HOME. A MATTER OF CONCERN

# **QUALITY AND SAFETY**

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**Background and Aims:** Each day, our Hospital-at-Home (HAH) provides hospital-level care for 2000 patients from the Paris Region, in their own homes. To ensure the safety of patients and staff, a policy for the prevention and control of healthcare-associated infections must be in place. This work aims to provide a comprehensive overview of our HAH's organization and activities in terms of infection prevention and control.

**Methods:** Our procedures and the 2023 activity data of our HAH hygiene team were used.

**Results:** In accordance with national strategy, our HAH's Nosocomial Infection Control Committee defines infection prevention policy. The operational hygiene team (OHT), comprising a physician and three hygienists, implements this policy with the support of a network of eight hygiene nurses, for all HAH professionals. By 2023, 909 employees had undergone training, including 280 in standard precautions and 88 in the management of long-term intravenous devices (central or deep peripheral lines). A total of 756 infectious risk situations were managed, including 378 cases related to the risk of SARS-CoV-2 infection, 195 cases related to multidrug-resistant bacteria, and 61 cases related to Clostridium difficile infection. In addition to these activities, the OHT develops and updates procedures, continually raises awareness among professionals and users through a variety of channels (live chat, newsletters, surveys, information leaflets, room of errors, etc.), and also participates in national campaigns such as Global Hand Hygiene Day and flu vaccinations.

**Conclusions:** Controlling the risk of infection must be a constant concern in HAH, requiring a specific organized policy and expertise.

**Keywords:** Hospital hygiene, Healthcare-associated infection, Risk management policy, Hospital-at-home

# KNOWLEDGE AND PRACTICE OF STANDARD HYGIENE PRECAUTIONS IN HOSPITAL-AT-HOME. AN ONGOING CHALLENGE

## **QUALITY AND SAFETY**

<u>Celine Bozier</u><sup>1</sup>, Corinne Urvoy<sup>1</sup>, Fatima Laradji<sup>2</sup>, Veronique Jacottin<sup>1</sup>, Caroline Le Boydre<sup>1</sup>, Adeline Catherineau<sup>1</sup>, Matthieu Plichart<sup>2</sup> <sup>1</sup>Fondation Santé Service, Healthcare Direction, France, <sup>2</sup>Fondation Santé Service, Research Department, France

**Background and Aims:** The Hospital-at-Home (HAH) program provides hospital-level care in the home setting for patients with increasingly complex and fragile needs. This raises questions about the prevention and control of healthcare-associated infections in this particular environment. Our objective was to evaluate the mastery of standard hygiene precautions (SHP) within our HAH.

**Methods:** In February 2023, our HAH hygiene team conducted a survey of HAH employees and independent nurses to assess their knowledge and practice of SHP.

**Results:** A total of 398 responses were received (245 HAH employees, of which 170 were nurses and 153 were independent nurses). While 96% of respondents reported awareness of the SHP, the level of understanding varied. Although all respondents were aware that hand hygiene was part of the SHP, respiratory hygiene (73%), blood safety (69%) and management of excreta (34%) were less well identified as SHP. Since their initial training, 75% of employed nurses and 47% of independent nurses had received SHP training. The main challenges to compliance with SHP include lack of appropriate equipment (30%), time constraints (27%) and knowledge gaps (27%). Finally, 64% of respondents indicated a need for an update on SHP.

**Conclusions:** These results demonstrate the necessity for continuous training of professionals working in the home setting with regard to hygiene practices. In response, our HAH hygiene team has developed a training program and tools to assist managers in supporting their teams. The efficacy of these actions will be evaluated through a new survey scheduled for completion at the end of 2024.

**Keywords:** Standard hygiene precautions, Risk management, Health-associated infections control, Hospital-at-home

# HAH HOME-BASED EMERGENCY RESPONSE EXPERIENCE ---A CASE REPORT

## **QUALITY AND SAFETY**

### <u>Mei-Ju Chen</u>

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**Background and Aims:** In Taiwan, Health Insurance Medical Notice No. 1130110065 "National Health Insurance in Hospital at Home Pilot Program was launched on July.2024. Heping Branch of Taipei City Hospital has been trying to implement the HAH program since 20240901. Patient emergency management and experience during the implementation of the program is the main objective of this study.

**Methods:** Our team that provides each service includes a physician, nurse, pharmacists, social workers and hospital administrators.There are six main steps in program implementation. 1.Eligibility 2. Documentation of records 3. Training 4 Equipment 5 Establishment of our team communication platforms 6.Implementation planning and case screening and confirmation of the implementation site

**Results:** The total number of home medical visit cases are 208, and according to the assessment of the home care nurses, 14 cases have been discussed and 9 of the cases can provide this service (20240901-20241130).With the exception of one case. Unexpectedly rushed to the hospital. The rest completed a 7-day course of antibiotics. 8 cases of UTI. 1 case of cellulitis. Because of the emergency condition in this case, our hospital has revised HAH emergency management procedures. We have also taken this case as interprofessional collaborative practice teaching case.

**Conclusions:** HAH begin with patient assessment and selection based on eligibility criteria, which requires collaboration between the interdisciplinary team, patients, and caregivers.There is still room for further discussion and learning about subsequent antibiotic treatment modalities and disease selection issues.

Keywords: Hopital at home, interprofessional collaborative practice

# IMPROVING DELIRIUM SCREENING AND MANAGEMENT: A QUALITY IMPROVEMENT INITIATIVE IN THE 'HOSPITAL AT HOME' SETTING

## **QUALITY AND SAFETY**

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**Background and Aims:** Delirium is a common and serious condition in elderly patients. This quality improvement (QI) project aimed to evaluate and enhance the practice of delirium screening, cause identification, and management among patients within the community Dundee Enhanced Care at Home Team.

**Methods:** A retrospective analysis of 20 cases was completed looking at 4 key parameters; 1)4AT performed on admission; 2)cause of delirium 3) 4AT prior to discharge, and 4)if delirium was coded on discharge. Based on the findings, a form was introduced to standardise delirium screening with an educational talk to staff on the importance of delirium recognition . A re-audit was performed on 20 cases post intervention.

**Results:** Cycle 1: 4AT was documented in 75% of cases, with 40% having a positive score. Delirium cause was identified in 83% of cases with only 17% of patients having a repeat 4AT prior to discharge. 'Delirium' was coded in only 33% of discharge letters. Cycle 2: 4AT was documented in 100% of cases, with 50% having a positive 4AT. Delirium cause was identified in 100% of these cases. The 4AT was repeated in 90% of cases prior to discharge and 'Delirium' coded in 70% of discharge letters.

**Conclusions:** The use of a standardized form and educational session to prompt clinicians to screen for delirium has proven effective. Highlighting delirium on discharge documentation raises awareness among healthcare teams and promotes future care planning. Continuous education and screening is recommended to ensure delirium is recognized early in a patients' journey in reducing morbidity and mortality.

Keywords: Delirium, Screening, 4AT

# FACTORS ASSOCIATED WITH PERIPHERAL INTRAVENOUS LINE REINSERTIONS IN HOME HOSPITAL

## **QUALITY AND SAFETY**

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**Background and Aims:** Background: The most common invasive procedure for hospitalized patients is the insertion of a peripheral intravenous (IV) line. Reinsertion can damage veins for future access needs, increase pain, and increase infection risk. Aim: To evaluate factors associated with IV reinsertion among home hospital (HH) patients.

**Methods:** We studied patients admitted from 1/2020-6/2024. We identified reinsertion using the electronic health record avatar when an IV was noted as discontinued and then immediately reinserted. We performed multivariable logistic regression to identify factors associated with at least one reinsertion, adjusting for age, sex, race/ethnicity, line duration (hours), CKD, vancomycin administration (one of the few vesicants used in HH), non-vancomycin antibiotic administration, diuretic administration, and IV fluid administration.

**Results:** We studied 4180 patients, of whom 1090 had at least one reinsertion. Patients had a median age of 76, were 57% female, 65% White, and had a median length of stay of 4 days. Patents with reinsertions were older and had a longer length of stay. In multivariable modeling, only the following variables were significantly associated with reinsertion: line duration (aOR, 1.002 [95% CI, 1.001 to 1.002]), IV vancomycin administration (aOR, 1.91 [95% CI, 1.47 to 2.47]), non-vancomycin antibiotic administration (aOR, 3.59 [95% CI, 3.03 to 4.26]), and IV diuretic administration (aOR, 4.87 [95% CI, 3.96 to 6.01]).

**Conclusions:** Conclusion: IV diuretics, non-vancomycin antibiotics, and vancomycin (in descending order) are highly associated with IV reinsertion. Future research should explore the underlying mechanisms of this association and evaluate potential strategies to address IV reinsertions among HH patients.

Keywords: Peripheral Intravenous Line, Reinsertions, Home Hospital

# EXPLORING THE CLINICAL WORK SYSTEM THAT DELIVERS CARE USING THE HOSPITAL-AT-HOME MODEL AND ITS IMPLICATIONS FOR PATIENT SAFETY RISKS, BENEFITS AND OUTCOMES: A SYSTEMATIC REVIEW

### **QUALITY AND SAFETY**

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**Background and Aims:** Introduction The United Kingdom's NHS has implemented the hospital-at-home (HaH) model to address the rising demand for acute healthcare, especially among older people. This model aims to benefit patients and the healthcare system, particularly those at risk in traditional hospital settings and individuals with mental health conditions or dementia. Initial evaluations show positive impacts, including reduced length of stay, fewer hospital readmissions, and cost savings. It is crucial to prioritise the safety of these new methods as policymakers explore alternative healthcare approaches. Aims 1. Describe how the clinical work system in a hospital-athome model affects patient safety using the Safety Engineering Initiative for Patient Safety (SEIPS) 3.0 model. 2. Use the Yorkshire Contributory Factors Framework (YCFF) to categorise the reported findings from the literature and assess factors contributing to patient safety risks and benefits.

**Methods:** We searched three literature databases and one search engine using specific key terms and their synonyms, resulting in 5704 articles after removing duplicates. Three different reviewers screened and reviewed these articles based on eligibility criteria.

**Results:** The findings that contributed to patient safety risks, benefits, and outcomes in the HaH model were categorised under YCFF. The process that delivered the clinical work system on the HaH model was illustrated using the SEIPS 3.0 model.

**Conclusions:** Conclusion Further study is necessary to comprehend the direct impact of the HaH model on patient safety. Additionally, a framework should be developed to assess and oversee safety within the HaH model to guarantee its efficacy.

**Keywords:** Hospital-at-home, Patient safety, benefits and outcomes, older people or elderly or geriatric or frail, SEIPS model

# A CLINICAL SUMMARY OF THE FIRST EIGHT MONTHS OF THE HOSPITAL AT HOME PROGRAM IN VANCOUVER

## **QUALITY AND SAFETY**

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**Background and Aims:** Hospital at home (HaH) is an innovative method of care for acute medical patients at their own homes that has been shown to lead to better quality of life<sup>1,2,3</sup> and lower system costs<sup>3,4</sup> with similar or even improved clinical outcomes<sup>3,4,5</sup> when compared to inpatient care. The first prototypical HaH program in Canada was piloted in Vancouver Islands, British Columbia (BC) on November 9, 2020<sup>6</sup> and has since been awarded for its improvement in patient experience<sup>7</sup>. The HaH program in BC was expanded to Vancouver, Canada on January 17, 2024 at 2 tertiary hospitals. Capturing and analyzing data from the Vancouver HaH program on enrolled patients within this first year of expansion in BC would be pivotal for the evaluation and continuous improvement of the Vancouver HaH program. Our primary objective is to compare the demographics, selection, interventions and clinical outcomes of HaH patients compared to hospitalized patients. Secondary objectives include differences in clinical outcomes based on biological sex, ethnicity and socioeconomic status and the development of robust HaH data collection infrastructure for ongoing QI and research.

**Methods:** Patient demographic and clinical data will be summarized from our regional electronic medical record (CST Cerner Powerchart) for quantitative data analysis. We will perform descriptive statistics.

**Results:** Data collection and analysis currently ongoing. We will present our results at the congress.

**Conclusions:** Conculsions have not yet been determined.

Keywords: Quality Improvement, canada, Hospital at Home

# NURSING PERSPECTIVES ON IMPLEMENTING HOSPITAL AT HOME (HAH) IN TAIWAN FOR INTRAVENOUS ANTIBIOTIC THERAPY

## **QUALITY AND SAFETY**

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**Background and Aims:** Since July 2023, Taiwan has implemented a Hospital at Home (HAH) program, enabling immobile patients with infections such as urinary tract infections (UTIs) to receive intravenous (IV) antibiotic therapy at home. This change posed new challenges for nurses, including concerns over workload, IV site care, potential complications like infection or dislodged lines, and the logistical issues of managing home visits within limited staffing.

**Methods:** From July to September 2023, Taipei City Hospital provided HAH care for 11 immobile patients, including six who required weekend nursing visits. The cohort included elderly patients who presented complex IV access cases. Nurses managed daily IV antibiotic administration and medication reviews and collaborated with pharmacists when medication adherence issues were identified, especially in patients living alone.

**Results:** Of the 11 patients, nine completed their seven-day course of antibiotics at home, while two were transferred to the hospital due to worsening conditions. One elderly patient accidentally removed her IV, necessitating urgent intervention from an experienced nurse. No significant infections or other IV-related complications were observed, and nurses used the visits to optimize overall care, such as helping organize medications to improve adherence.

**Conclusions:** Despite initial concerns about HAH implementation, nurses adapted well, finding the program beneficial for patients and caregivers. The collaboration between hospital and home care nurses ensured patient safety and care continuity. Collaborating with private nursing agencies may be necessary to address staffing flexibility, especially for weekend coverage and growing case volumes.

**Keywords:** Hospital at Home (HaH), Nursing Care, Intravenous Therapy, Home Care Challenges, Medication Adherence

# HOSPITAL CARE IN THE HOME VS THE HOSPITAL: COST AND CLINICAL OUTCOMES FROM SINGAPORE

## **QUALITY AND SAFETY**

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**Background and Aims:** This study aimed to describe the clinical and cost-effectiveness of Hospital-at-Home (HaH) in comparison to traditional ward-based hospitalisation in Singapore.

**Methods:** A prospective quasi-experimental study was conducted comparing patients admitted between January 2021 and May 2023 to NUHS@Home, a HaH programme in Western Singapore, with equivalent patients admitted to NUH or AH receiving equivalent ward-based care.

**Results:** 151 patients recruited for both HaH and in-ward care. Compared to wardbased patients, there was no significant difference in 30-day readmissions among HaH patients (RR 1.2, 95% CI 0.6 – 2.4). Unanticipated 30-day mortality rate was at 0% for both groups of patients. HaH patients had longer total overall length of stay (5 vs 4 days, median difference 1.0, 95% CI 0.4 – 1.6), but shorter hospital length of stay (1 vs 4 days, median difference -3.0, 95% CI -3.4 – -2.6). Improvements in EQ-5D and EQ-VAS two weeks post-discharge were also similar for both HaH and ward-based patients. Median total costs calculated per patient was lower for HaH at \$5,105.09 (IQR \$3,303.36, \$6,919.92) compared to ward-based patients at \$6,133.70 (IQR \$4,388.81, \$7,853.26). Similarly, median total cost per bed day was also lower for HaH at \$775.96 (IQR \$622.09, \$928.43) compared to ward-based patients at \$1,166.10 (IQR \$1,105.71, \$1,257.07) (Table 2).

**Conclusions:** The HaH model represents a viable and value-driven alternative to traditional inpatient hospitalisation, offering cost savings, comparable clinical outcomes, and enhanced patient reported outcomes. Expansion of HaH programmes across Asian populations has great potential to flexibly increase hospital capacity.

**Keywords:** Hospital at Home, clinical effectiveness, cost effectiveness, value based care

### NO PLACE LIKE HOME

### QUALITY AND SAFETY

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**Background and Aims:** Children with palliative cancer can experience anemia-induced fatigue or trombopenia-induced mucus bleeding. They can benefit from erythrocytes and platelets transfusions, for which they need to be hospitalized. They cannot spend this time with loved ones, and it costs the child a lot of energy. Receiving transfusions at home would increase the quality of life (QOL) in children with palliative cancer.

**Methods:** In 2017 we conducted a pilot with hometransfusions. We've updated this programme and are currently (2024) enrolling on an extended programme. Inclusion criteria: 0-18 years palliative cancer anemia-induced fatigue (hb < 5.0) and/or mucus bleeding No allergic reaction Pediatric homecare nurses administer transfusions at home. The nurses are trained in administering transfusions at home, especially in recognising adverse effects. Children with palliative cancer are assessed to see if they would benefit from transfusions. Families are asked if they want to receive transfusions at home or in the hospital. If they prefer home care, the child will be included.

**Results:** Six children were included so far , with neuroblastoma, or Ewing sarcoma with bone marrow involvement. All children received blood and/or platelets transfusions at home . In total, 21 bloodtransfusions and 18 platelettransfusions were administered. No adverse effects were reported. Children reported a higher level of QOL and energy after transfusions, that they could use to make memories

**Conclusions:** Hometransfusions during palliative care are feasible in this small group in a safe and qualitatively good way. It increases the QOL of children witch anemia-induced fatigue and trombopenia-induced mucus bleeding.

Keywords: Pediatric, hometransfusions, QOL, Safety, Quality

# ENHANCING CLINICAL, QUALITY, AND SAFETY OUTCOMES IN PNEUMONIA CARE THROUGH HOSPITAL-AT-HOME PROGRAMS

# **QUALITY AND SAFETY**

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**Background and Aims:** Pneumonia is a major global health burden, particularly among individuals with advanced age and multimorbidity. Hospital-at-home (HaH) programs represent an innovative approach to healthcare delivery, providing comprehensive, home-based care aligned with regulatory frameworks and governance protocols. This study evaluated clinical outcomes, patient safety, and quality metrics for individuals with pneumonia managed through an HaH model.

**Methods:** A retrospective cohort analysis was conducted on 15 patients diagnosed with pneumonia and managed via an HaH program. Care delivery was led by specialist physicians and involved 24/7 multidisciplinary oversight, encompassing medical, nursing, and allied health interventions. Variables analyzed included demographic characteristics, length of stay (LOS), adverse events, therapeutic compliance, and quality indicators.

**Results:** The mean age of the cohort was 80 years (range: 46–95), with 73% male representation. The HaH care model was episodic, with an average LOS of 6.7 days (range: 3–23). Adverse events, such as hypoxemia, aspiration, and altered mental status, were reported in 20% of patients, necessitating readmission. Compliance with prescribed therapies was 100%, with patients receiving timely diagnostics, evidence-based therapeutics, and supportive interventions such as physiotherapy. Quality assessments demonstrated high patient satisfaction, with robust adherence to clinical governance standards. Safety outcomes revealed no incidents of medication errors, supported by continuous monitoring and coordinated care delivery.

**Conclusions:** HaH programs provide a feasible and effective alternative to conventional hospital-based management for pneumonia, delivering episodic, patient-centered care. Their capacity to integrate multidisciplinary services and mitigate safety risks underscores their potential to improve clinical outcomes and enhance care quality in vulnerable populations

**Keywords:** Pneumonia, Hospital-at-Home (HaH), Multidisciplinary care, clinical outcomes, Patient safety

# IMPLEMENTING RIGHT CARE FOR RED BLOOD CELL TRANSFUSIONS WITHIN A HOME HOSPITALIZATION UNIT

## **QUALITY AND SAFETY**

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**Background and Aims:** According to the most recent recommendations from various clinical guidelines, transfusion criteria for red blood cells are becoming increasingly restrictive. This is because no significant differences have been demonstrated in mortality, myocardial infarction, heart failure, or adverse events. Blood product transfusions are valuable but not without risk, and therefore their indication must be carefully evaluated.

**Methods:** We conducted an analysis of number of red blood cell transfusions performed in our Unit over the last three months, assessing their adherence to the latest clinical guideline recommendations. Restrictive transfusion criteria (1) were defined as <7 g/dL of Hb

**Results:** A total of 63 red blood cell transfusions were performed in the home setting over three months. In 35% of cases, indications were followed according to the guidelines, with restrictive use. The average Hb was 6.14 g/dL, and an average of 1.9 units of red blood cells were transfused. In 65% of cases, indications were not followed, with an average Hb of 7.8 g/dL and an average of 1.5 units transfused.

**Conclusions:** There was an inappropriate use of red blood cells transfusion according to clinical guideline recommendations. We propose implementing training measures within the Unit and continuous evaluation of adherence to the guidelines, given the limited resource and the potential risk of adverse events. 1. Carson JL, Stanworth SJ, Guyatt G, Valentine S, Dennis J, Bakhtary S, et al. Red Blood Cell Transfusion: 2023 AABB International Guidelines. JAMA. 21 de noviembre de 2023;330(19):1892.

Keywords: Hospital at Home, Red blood cell transfusion, Safety, Right Care

# PERSPECTIVE OF HOSPITAL AT HOME STAKEHOLDERS AS A DRIVER FOR CONTINUOUS IMPROVEMENT

### **QUALITY AND SAFETY**

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**Background and Aims:** In 2023, our Hospital at Home (HaH) unit was certified by the ISO 9001:2015. This Quality Standard requires to define the stakeholders and to identify their requirements and expectations. Understanding their perspectives is essential for improving our process outcomes in a more holistic way. To identify areas of improvement reported by our stakeholders in order to uncover unmet needs and initiate improvement plans.

**Methods:** The relevant stakeholders we decided to address were: patients and/or caregivers, HaH staff, and intermediate clients. Two different methodologies were used: a perception survey for HaH patients and/or caregivers, a safety perception questionnaire for HaH professionals and another survey and two focus groups for hospital care services that refer patients to HaH.

**Results:** The feedback from patients and/or caregivers revealed a high satisfaction level, with a Net Promoter Score (NPS) of 9.5. However, they also highlighted the need for better pre-admission information and more effective telephone communication. HaH professionals expressed confidence in the safety, teamwork, and communication within their teams but noted the necessity of expanding common working spaces and increasing healthcare staff coverage. Referring hospital services, through an online survey with 372 responses and two focus groups, emphasized the benefits of HaH but also the need to improve service awareness and knowledge.

**Conclusions:** Stakeholder analysis provides valuable insights into their interests, concerns, and expectations, helping us proactively address potential issues and develop improvement plans from a more comprehensive perspective.

Keywords: Quality, Continuous improvement, Stakeholders

# VASCULAR ACCESS COMPLICATIONS USING ELASTOMERIC INFUSES IN A HOSPITAL IN THE HOME PROGRAM: A RETROSPECTIVE REVIEW

## **QUALITY AND SAFETY**

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**Background and Aims:** Hospital in the Home (HITH) service was established at Wollongong hospital in 1999 with OPAT as its core business. Wollongong Hospital is a 500 bed teaching hospital on the south coast of NSW, Australia. This study aimed to evaluate the frequency, nature, and outcomes of cannula-related complications using an elastomeric device in a Hospital-in-the-Home (HITH) service over a 13-month period. The results contribute to improving patient care strategies and protocols for peripheral cannula management in HITH.

**Methods:** A retrospective review was conducted on all PIVC complications for patients receiving intravenous antibiotic therapy via an elastomeric delivery device in a HITH program from January 2022 to January 2023. Patient records were analyzed for incidents of cannula complications, including phlebitis, infiltration, extravasation, dislodgement, and infection. Demographic data, treatment protocols, and outcomes were also reviewed.

**Results:** 271 patients were enrolled with a mean age of 52 and 74% male. ALOS was 4.8 days and average number of infusers per patient was 2.9. A total of 390 PIVCs were reviewed. 92% on the initial PIVC were inserted in the Emergency Department and these made up 64% of the overall PIVC. Complication data revealed 49% of PIVC were resited (49% male vs 50% female), 48% mechanical failure (48% male vs 46% female) and 35 accidental (2.8% male vs 3.6% female).

**Conclusions:** PIVC realted complications in hospital in the home service a relatively low, they remain a concern for patient's safety. Improved training for staff adherence to evidence-based protocols and timely interventions could further reduce complication rates.

**Keywords:** Hospital In The Home, Peripherally inserted venous cannula, elastomeric infusers, complications

# HOSPITAL AT HOME IN SWITZERLAND: INITIAL RESULTS FROM A PIONEERING CLINIC

# **QUALITY AND SAFETY**

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**Background and Aims:** Hospital at home models (HaH) are new to the Swiss healthcare system. The Clinic Arlesheim was among the first providers of HaH in Switzerland, starting a regional service in January 2023, focusing on avoidance of hospital admissions. This study reports results about the composition of the patient population, indicators for the quality of care and perception of care by patients and their relatives.

**Methods:** In this retrospective analysis, all patients, who were referred to the provider between 1<sup>st</sup> of June 2023 and 31<sup>st</sup> of December 2023 (following an initial pilot phase), were included. Data on patient characteristics, indicators for quality of care and the satisfaction assessment are shown descriptively.

**Results:** 89 patients (55% female, mean age 73.2±17.6 years, mean Charlson Comorbidity Index 2.8± 2.2) were included in the study with more than 50% showing an increased need of care (Self-care-index < 32). Of these, 78 patients returned to their pre-existing care situation. The incidence of adverse events (i.e. falls, infections) was low and satisfaction of patients and relatives was high.

**Conclusions:** HaH of the Clinic Arlesheim succeeded in caring for a geriatric and seriously ill patient group, treating diagnoses from the entire spectrum of internal medicine. The preservation of the care situation, the low occurrence of complications and the positive feedback from patients and relatives emphasise the potential of the HaH model to avoid inpatient hospitalisation whilst maintaining high quality. Future research should include follow-up data, perform systematic comparisons with hospitalised patients and assess the perspective of patients, relatives and healthcare professionals.

**Keywords:** Quality of care, Patient composition, Patient management, Satisfaction of patients and relatives

# SAFETY MANAGEMENT SYSTEM DEVELOPMENT FOR HIGH-QUALITY HOSPITAL AT HOME OPERATIONS

#### **QUALITY AND SAFETY**

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**Background and Aims:** Hospital at Home (HaH) has transformed care delivery through decentralization of logistics management for acute care. This requires adaptation of safety management systems to HaH for inpatient-level care at home with operational, logistics, and clinical nuance. Ensuring patient safety in HaH requires tailored approaches to operational excellence to produce safe care. Inpatient safety research focuses on institutional settings, leaving a gap in understanding how safety systems should be adapted to the realities of decentralized Hospital at Home (HaH) care.

**Methods:** -Establish safety culture required for high reliability organizing in HaH operations, supported by incident reporting infrastructure & governance processes to progress continuous improvement. Focus this safety management system on unique elements of HaH care model with highest operational complexity and risk. -Define incident taxonomy for potential HaH failure modes, given unique care model (homebased, hybrid virtual/in-home care, decentralized logistics management, high complexity with scale): -Apply HaH-adapted incident taxonomy via incident reporting & analysis infrastructure for all stakeholders in HaH value chain

**Results:** - Develoepd continuous review of severe safety incidents with root cause analysis specific to HaH model - Designed pecific focus on near misses & good catches in HaH - Dedicated resources for quality improvement to focus on prevention for high volume/severity incidents & trends - Refined HaH practice standards (policies & procedures) based on incident trends and corrective actions - Define industry-wide HaH operations insights & standards, incorporating safety system learnings

**Conclusions:** Convening HaH stakeholders in safety event prevention requires incident reporting infrastructure that is unique to HaH and unlocks corrective action planninig for continuous improvement of HaH care in structured forums.

**Keywords:** Safety System, Hospital at Home (HaH), Safety Culture, High Reliability, Quality & Safety, Continuous Quality Improvement

# JUST-IN-TIME PATIENT EXPERIENCE MEASUREMENT FOR CONTINUOUS QUALITY IMPROVEMENT IN HOSPITAL AT HOME

# **QUALITY AND SAFETY**

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**Background and Aims:** Hospital at Home (HaH) care experience measurement requires adaptation of existing survey methodologies to address unique features of HaH. Additionally, surveying patient and caregiver experience measurement during an episode of HaH care, as oppoed to after discharge from HaH, allows HaH clinicians to respond dynamically to real-time improvement opportunities.

**Methods:** Via modified Delphia method, HaH quality experts optimized survey items for an abbreviated, just-in-time (JIT) survey of experience in the virtual HaH model. Surveys were deployed to patient once on day after admission via bedside tablet technology. Survey content addressed HaH care experience drivers for evaluation DURING the HaH episode:

- 1. The care I receive from my virtual care team meets my expectations.
- 2. The care I receive from my in-home providers meets my expectations.
- 3. The vital signs equipment and this tablet are easy for me to use.
- 4. If I need to be hospitalized in the future, I would want to be hospitalized at home again.

5. I believe my caregiver (family, friend, etc.) is well supported during my hospitalization at home.

6. Hospitalization at home is a safe place to receive care.

**Results:** Data visualization across 6 unique HaH programs allowed for de-identified benchmarking of HaH care experience across US-based programs. Over 1000 patients across 6 programs were surveyed with high patient response rates and mean >4.5/5 scores (0-5 Likert) across all surveyed questions. Within programs or for individual patients, low survey scores triggered JIT service recovery via RN leadership rounds.

**Conclusions:** HaH program leaders leveraged dynamic surveys for continuous quality improvement alongside patient care.

**Keywords:** Hospital at Home (HaH), Patient care experience, Quality & Safety Home-Based Care, caregiver experience, Continuous Quality Improvement

## HOSPITAL AT HOME RISK OF REPATRIATION PREDICTION TOOL

## **QUALITY AND SAFETY**

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**Background and Aims:** During its 4th year of operation, the Hospital at Home (HaH) program in Victoria, BC, Canada observed a 50% increase in the rate of clinical decompensation (7% to 11%) without a change in its admission criteria. We noticed that many of the patients who decompensated had a high burden of medical comorbidities. We wanted to better understand which comorbidities increase a patient's risk of decompensation, by developing an HaH Risk Score that could be used to calculate an individual's overall risk of decompensation, based upon their suite of comorbidities.

**Methods:** We will perform a retrospective chart review of the last 1000 HaH patients, noting the presence of various comorbidities which we suspect are associated with an increased risk of clinical decompensation (e.g. end stage CHF, metastatic cancer), as well as whether the patient decompensated, where decompensation is defined as death in HaH or unplanned transfer back to hospital. Comorbidities with a risk of decompensation greater than 8% will be incorporated into an HaH Risk Score using logistic regression, which we will test for its ability to a patient's overall risk of decompensation.

**Results:** This study is currently in progress and is expected to be complete by November 30, 2024.

**Conclusions:** We expect to identify at least several medical comorbidities that are associated with an increased risk of decompensation in HaH in medically stable patients. Whether these comorbidities are associated with a cumulative risk of decompensation - captured by a HaH Risk Score - is yet to be determined.

**Keywords:** Hospital at Home, decompensation rates, Risk of Repatriation Prediction tool

# INTEGRATION OF NURSES IN HOME HOSPITALIZATION : THE GAMIFIED PATH FOR VALIDATING THEORETICAL AND PRACTICAL SKILLS

### QUALITY AND SAFETY

<u>Lorraine Tricart</u> Sitex Sa, Plan les Ouates, Switzerland

**Background and Aims:** Sitex, a private Home Hospitalization (HAH) organization located in the cantons of Geneva and Vaud in Switzerland, faces several challenges in integrating new staff. In 2023, Sitex welcomed 33 new nursing professionals. These challenges focus on three main areas: the technical and clinical complexities of care associated with a holistic approach to patient management, the handling of adverse events linked to skill deficiencies, and the understanding of the specific context of HAH in Switzerland, which is often insufficiently addressed in the initial training of healthcare professionals. Our observation is that the evolution of patients in HAH requires specific support during the integration of new staff.

**Methods:** To address these challenges, Sitex proposes an innovative integration method for staff through a gamified skills validation path. This pathway combines playful elements with theoretical and practical assessments, aiming to enhance team engagement and skills. This approach allows for a rigorous and objective evaluation of knowledge and abilities, thereby ensuring the quality and safety of care.

**Results:** The gamified pathway has successfully validated the theoretical and practical skills of staff, leading to increased professional accountability. This method ensures standardization of practices and contributes to team retention while guaranteeing high-quality care.

**Conclusions:** The gamified integration of staff in HAH is an effective tool for quality assurance and patient safety. To complement this approach, clinical mornings and professional situational training sessions are conducted, allowing for continuous education and optimal adaptation to the specifics of HAH.

**Keywords:** home hospitalization, gamified pathway, clinical and theoretical skills, continuous training, integration

# HOSPITAL AT HOME CANCER CARE- ACHIEVING BEST PRACTICE, HIGHEST QUALITY, AND OPTIMAL SAFETY

### **QUALITY AND SAFETY**

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**Background and Aims:** Peter MacCallum Cancer Centre in Melbourne Victoria, Australia provides 7 days a week hospital at home care for patients with cancer. As the service has expanded to encompass new and complex chemotherapy and immunotherapy protocols, the need to ensure a secure pipeline from drug manufacture through to safe administration to the patient has become even more crucial. In the 2023-2024 year, PeterMac@Home conducted 15000 home visits, delivered over 3000 episodes of intravenous anticancer therapy and more than 5000 post-surgical occasions of care.

**Methods:** In terms of chemotherapy and immunotherapy, drug safety has been achieved and maintained through a dedicated HAH pharmacist supporting accurate drug dosage, timely manufacturing, and the maintenance of cold chain integrity throughout the transportation process. Additionally, we established protocols to manage cytotoxic spills and waste disposal during transport and real time documentation through EMR connected portable devices.

**Results:** Through established comprehensive staff training and regular quality audit processes we have ensured maintenance of competency, high levels of compliance with hand hygiene, personal and occupational safety, and proficiency in central venous access device (CVAD) access. Guidelines and pathways are reviewed regularly and support service delivery through clear escalation pathways that enable immediate contact with a dedicated HAH doctor on demand.

**Conclusions:** Audits confirm service delivery of high-quality safe care with no high severity clinical incidents to date. Incidents observed in our HAH service predominantly relate to unexpected clinical deterioration and mild adverse reactions to treatment requiring hospital support. Results for staff and patient satisfaction have consistently been exceptional.

Keywords: Quality, Safety, Chemotherapy, Risk

# EFFECT OF IMPLEMENTING STANDARDISED MEDICATION RECONCILIATION AT ADMISSION INTO VIRTUAL REHABILITATION WARD IN REDUCING MEDICATION ERRORS: A RETROSPECTIVE STUDY

#### **QUALITY AND SAFETY**

Deema Weerakkody<sup>1</sup>, <u>Vun Vun Wong<sup>1,2</sup></u>, Nadine Matti<sup>1</sup> <sup>1</sup>Flinders Medical Centre, , Australia, <sup>2</sup>Flinders University, , Australia

**Background and Aims:** Virtual Rehabilitation Ward (VRW), an in-home inpatient rehabilitation service accommodates rehabilitation patients who are medically complex and have high nursing requirement. Since the commencement of VRW, several medication related concerns were reported. This study forms part of medication safety and quality improvement strategies to reduce medication errors or concerns (ME). 40% of medication errors occured due to inadequate reconciliation during admission and/or discharge of patients. From February 2023, we implemented a standardised documentation proforma detailing a comprehensive list of all prescribed and over the counter medications, medication administration method (Webster-pak®/dosette etc.) and functional limitation (cognition/hand dexterity etc.) for medication reconciliation on admission to VRW.

**Methods:** This retrospective study compares the ME pre and post implementation of standardised documentation for patients admitted from September 2022 to May 2023 to VRW.

**Results:** 295 patients' electronic medical records were reviewed. The average age of patients admitted were 70.8 years with 49% having new/pre-existing cognitive impairment. A total of 76 ME were identified. Following the introduction of the standardised documentation, the number of ME reduced from 8.33 to 5.17 episodes/month (p=0.02). Common ME identified were inadequate medication clarification (36%), inadequate supply on discharge (21.5%) and compliance issues (20%) despite acute hospital pharmacist's involvement in 71% of the reported ME.

**Conclusions:** A standardised documentation has shown to reduce number of ME. This allows clearer communication with patients and their family/carer regarding their medication management or issues. Early identification of ME reduced adverse effects. It is also important to continually review medications regularly at different points of their hospital/out of hospital journey.

**Keywords:** Medication error, Rehabilitation, medication reconciliation, Medication Safety

# ETHICAL DILEMMA: A STUDY ON ASSISTED SUICIDE IN GENEVA

# SOCIAL, ETHICAL AND EQUITY ASPECTS

<u>Marlie Amboula</u> Sitex Sa, Plan les Ouates, Switzerland

**Background and Aims:** In Switzerland, assisted suicide has been legally tolerated since 1942, governed by strict legislation. Among the four existing associations, Exit is the most well-known. Although many patients are registered with these associations, the majority do not follow through on their desire for assisted suicide. These patients, often suffering from unrelenting pain despite palliative care, present nurses with an ethical dilemma: to respect the patient's wishes while maintaining their professional responsibility to preserve life. This study aims to explore the feelings of caregivers working in home care organization (HaH and Home Care - MAD) within Sitex, to assess the impact of these requests on their professional practice and well-being.

**Methods:** A qualitative study is currently being conducted within the Sitex HaH and Sitex MAD teams. A questionnaire has been sent to 178 caregivers working in the cantons of Geneva and Vaud and will subsequently be analyzed by the IRSP (Palliative Care Resource Nurses).

**Results:** Geneva's legislation provides a secure framework for caregivers. The collected data will help identify the factors that influence caregivers' perceptions and evaluate the resources needed to effectively support them in managing the various ethical dilemmas they encounter.

**Conclusions:** Assisted suicide remains an ethical dilemma for caregiving teams. A better understanding of the emotional and professional challenges faced is essential for developing targeted training and implementing specific support systems.

Keywords: Assisted suicide, palliative care, caregiver support, professional dilemmas

# DIGNITY OF RISK AND DUTY OF CARE: THE IMPLEMENTATION OF TEAM PATIENT MEETINGS (TPMS) TO FACILITATE COMPLEX DISCHARGE PLANNING

# SOCIAL, ETHICAL AND EQUITY ASPECTS

# Melissa Hyde, Alisha Spiteri

Monash Health (Kingston Centre), Monash At Home Aged And Rehabilitation Care, Cheltenham, Australia

**Background and Aims:** The Monash At Home Aged and Rehabilitation Care (MAH ARC) program aims to provide a least restrictive model of care for older people, allowing them to maintain autonomy and dignity while ensuring their safety. Historically, healthcare providers have made decisions based on what they believe is the safest option for the elderly, often disregarding the patient's preference to be at home. MAH ARC addresses this by offering intensive home-based, inpatient hospital care, facilitating a safe transition for patients discharged under dignity of risk/least restrictive practice.

**Methods:** The program is led by a multidisciplinary team, including nurses, physiotherapists, occupational therapists, social workers, speech pathologists, neuropsychologists, podiatrists, and dieticians. A robust process has been developed to support patients and their carers for discharge home, involving a Team Planning Meeting (TPM) with representatives from medical, nursing, allied health, and social work disciplines.

**Results:** The program has successfully implemented a least restrictive model of care, enabling older people to maintain their autonomy and dignity while ensuring their safety and well-being. The collaborative approach and complex discharge planning processes have facilitated a smooth transition for patients back to their homes. Readmission rate for the specified population was 50%, post implementation readmission rate decreased to 10%.

**Conclusions:** The MAH ARC program demonstrates that it is possible to respect a patient's dignity of risk while meeting the duty of care. By providing intensive home-based, hospital care and involving a multidisciplinary team in the discharge planning process, the program has successfully supported the elderly population in their transition back home.

Keywords: Dignity, Elderly, duty, discharge

# A DECENTRALIZED MODEL OF HOSPITAL AT HOME IN NORWAY: UTILIZING THE PRIMARY HEALTHCARE SYSTEM TO EXPAND ACCESS

# SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** Hospital at home (HaH) delivers specialized healthcare services directly to patients in their homes, primarily in urban areas. Extending this care model to patients in more remote locations could be feasible by integrating it within the primary healthcare system. However, there is limited evidence on how primary healthcare employees perceive the integration of this care model. This study aimed to explore the perspectives of primary healthcare managers and homecare nurses on integrating HaH into primary healthcare services.

**Methods:** Ten focus group interviews were conducted with homecare nurses (n=19) and primary healthcare managers (n=19) across five municipalities in Mid-Norway. The data were analyzed using reflexive thematic analysis.

**Results:** The analysis revealed three key themes regarding the integration of HaH into primary healthcare: 1. Distinctiveness of HaH: How HaH care fits within the primary healthcare landscape. 2. Opportunities and challenges: Identification of opportunities within the HaH care model to address common challenges. 3. Commitment and professional pride: A strong sense of commitment and professional pride, which motivated their efforts to provide services to HaH patients.

**Conclusions:** This study provides insights into integrating HaH care into primary healthcare services to broaden access. The findings suggest HaH has the potential to overcome common challenges. The dedication and resilience of primary healthcare employees appear crucial for adapting to and succeeding with a decentralized care model. To achieve sustainability, it is essential to address provider strain, strengthen relationships, improve funding, and formalize decision-making processes.

**Keyword:** Hospital at home and primary healthcare services and integrated care and rural nursing

# THE DILEMMA OF HOSPITAL AT HOME: BALANCING ETHICAL AND CLINICAL DECISIONS IN END-OF-LIFE CARE – A CASE REPORT FROM TAIWAN

# SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** Taiwan has been implementing Home-Based Medical Care (HBMC) for nine years, but experience with Hospital at Home (HAH) remains limited since its official launch in July 2024. Healthcare providers face significant challenges in managing acute conditions and addressing ethical dilemmas, and public awareness of HAH remains low.

**Methods:** Case Report: This study presents the case of a 95-year-old female residing in a long-term care facility. She was single, childless, and suffered from chronic conditions, including hypertension and diabetes, with long-term urinary catheter use due to urinary retention. She was frail, bedridden, and mildly depressed, showing little interest in active medical interventions. A nurse noticed urinary abnormalities, leg swelling, and drowsiness, prompting communication with her 85-year-old brother, who expressed a preference for non-aggressive care to allow a "natural passing."

**Results:** Upon assessment by the physician, the patient was suspected of having urosepsis. After repeated discussions and shared decision-making (SDM), her brother agreed to limited treatment, including blood tests and antibiotic administration at the facility. The physician faced an ethical dilemma: whether to proceed with limited aggressive treatment (a limited trial) or respect the family's wish for a natural passing. Blood tests revealed a high white blood cell count, and the patient received a single dose of ertapenem. Despite the intervention, she passed away peacefully the following morning.

**Conclusions:** This case highlights the ethical and practical challenges in delivering HAH services, particularly in end-of-life care scenarios. Clear ethical guidelines and structured shared decision-making processes are essential to support healthcare providers in navigating these dilemmas effectively.

**Keywords:** Hospital at Home, Ethical dilemma, Shared Decision-Making, Limited Trial, end-of-life care

# HEALTH EQUITY IN THE DIGITAL AGE: ENHANCING VIRTUAL HOSPITAL-AT-HOME CARE FOR SOUTH ASIAN COMMUNITIES IN BRITISH COLUMBIA

## SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** South Asian communities in Canada face higher chronic disease rates due to social and environmental factors. Hospital at Home (HaH) can promote health equity by offering home-based and patient-centered care. However, these benefits can only be realized if HaH is accessible and culturally safe. This study explores barriers and facilitators of HaH adoption for South Asian communities in the Fraser Health region to inform equitable service development.

**Methods:** A qualitative study was conducted to understand patients' experiences with in-person hospitals and their views on HaH. A steering group with community partners and individuals with lived experience guided the research. Nineteen interviews were conducted in English, Hindi, Pashto, and Punjabi. Thematic coding identified common themes and patterns related to HaH barriers and facilitators.

**Results:** Preliminary findings indicate that South Asian patients face barriers similar to other populations, such as limited digital literacy among older adults and concerns about virtual versus in-person care quality. Additional cultural barriers include language differences, varying expectations of Canadian health process, privacy issues in multi-generational homes, and trust in specific healthcare providers. Facilitators include technical support and training, strong family support, and user-friendly technology. Participants highlighted the importance of considering patients' self-efficacy, health condition, and potential for reduced hospital wait times and stay durations in HaH eligibility criteria.

**Conclusions:** The study emphasizes the need for patient-informed HaH services that address South Asian communities' needs and preferences in the Fraser Health region. Collaboration with health authorities, community organizations, and patient engagement is crucial for promoting equitable and accessible HaH.

Keywords: equity, access, culturally-safe, patient-oriented research

# SUBSTANCE USE DISORDERS IN HOSPITAL AT HOME PROGRAMS: BALANCING ACCESS AND EQUITY WITH SAFETY

# SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** Hospital at Home (HaH) seeks to provide comprehensive and equitable care. The intersection of substance use and safety presents unique challenges & opportunity. Many US-based programs exclude patients with Substance Use Disorder (SUD) or experience difficulty operationalizing required workflows, undermining HaH's commitment to health equity. Patients with SUD face significant barriers to accessing safe and equitable care. HaH programs offer a promising model, but regulatory and operational difficulties have made it challenging to include patients. Programs at Boston Medical Center (BMC) and Oregon Health & Science University (OHSU) have addressed these barriers by developing specific guidelines to safely include patients with SUD into HaH care.

**Methods:** BMC and OHSU developed SUD-specific workflows through interdisciplinary collaboration. This was possible with a commitment to person-centered care, frequent communications with stakeholders (including regulators), and executive leadership support.

**Results:** Including patients with SUD in HaH is essential for advancing health equity. BMC and OHSU's experiences show that tailored guidelines and workflows can overcome operational barriers, expand access and improve safety for this underserved population.

**Conclusions:** Looking ahead, it is key to: Equip the global HaH community with tactical examples of SUD guidelines & share learnings from two geographically distinct HaH systems with unique regulatory and operational environments. Bring the global HaH community together for shared learning and development of best practices with regards to providing equitable and safe HaH care to individuals who use unprescribed substances.

Keywords: Hospital at Home, Substance Use Disorder, Health Equity, Patient safety

# COMPARING EQUITY INDICATORS IN KAISER PERMANENTE ADVANCED CARE AT HOME (ACAH) AND TRADITIONAL HOSPITAL MODELS: A RETROSPECTIVE COHORT STUDY

# SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** Hospital at Home (HaH) is uniquely positioned to address health related social needs (HRSNs) and may address opportunities to provide equitable care delivery to varied socioeconomic populations through measurement of varied equity indicators.

**Methods:** This retrospective cohort study compared socioeconomic indicators of patients cared for in traditional hospital care and the Kaiser Permanente Advanced Care at Home (ACaH) model.

**Results:** Between 4/28/2020 and 12/31/2022, 1,787 patients were treated in Kaiser Permanente ACaH and 25,150 were treated in the hospital. By utilizing demographics, Neighborhood Deprivation Index (NDI), Medical Financial Aid (MFA) status, and insurance product as proxies for socioeconomic status, we found that patients in the 4<sup>th</sup> of 5 NDI quintiles (higher socioeconomic needs), a higher percentage were treated in the ACaH model (20.4% vs. 14.2%; P < 0.00001). 16.9% of Kaiser Permanente at Home patients had applied for MFA within 6 months of admission compared with 13.5% of hospital patients (P=0.00001).

**Conclusions:** The data show that care was provided at similar rates between the ACaH and hospital models, regardless of age, race, ethnicity, insurance, or socioeconomic status. The ACaH model may better serve patients with higher socioeconomic needs, as reflected in higher NDI quintiles and MFA applications. Our findings support that both ACaH and hospital models effectively reach diverse and vulnerable populations. The ACaH model demonstrates a capacity to provide equitable care to patients with greater socioeconomic challenges.

**Keywords:** Health Equity, Demographics, Neighborhood Deprivation Index, Health Related Social Needs, Data-informed care

# BALANCING ROLES AND ETHICS IN HOME PALLIATIVE CARE: INSIGHTS FROM HEALTHCARE PROFESSIONALS

## SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** Home-based care at the end-of-life presents a unique and complex healthcare environment, offering distinct advantages while posing significant challenges for healthcare professionals. This setting demands a delicate balance as caregivers navigate their dual roles as medical experts and guests in patients' homes. The intricacy of this care model, coupled with its recognized benefits, underscores the importance of understanding the experiences and ethical considerations faced by healthcare team-members.

**Methods:** This study explores the ethical challenges encountered by healthcareprofessionals providing home-based palliative-care. Using a qualitative approach, we analyzed 29 texts, comprising 20 written responses to closed questions and 9 transcripts from semi-structured in-depth interviews with care team-members. Participants shared their experiences during home visits to end-of-life patients and the ethical dilemmas they faced, comparing these to care experiences in institutional settings.

**Results:** Thematic content-analysis revealed the concept of the "professional guest" as a central theme. Ethical dilemmas frequently arose around balancing clinical necessities with patient preferences, addressing the often-conflicting needs of both patients and their families, and navigating diverse cultural contexts. Participants also emphasized the challenges of maintaining professional boundaries while providing compassionate care in an intimate setting.

**Conclusions:** The study concludes that these challenges require targeted strategies and specialized training to help caregiving teams effectively manage ethical dilemmas. Such preparation is crucial for ensuring patient dignity and autonomy in home-based care settings while supporting the emotional and professional needs of healthcare providers. These findings have important implications for developing ethical guidelines and professional development programs in home-based palliative care.

Keywords: Home Care, Ethical dilemma, Professional Guest
## ADDRESSING HEALTHCARE INEQUALITY IN TAIWAN'S HOSPITAL AT HOME (HAH) PROGRAM: A SOCIAL WORK PERSPECTIVE

### SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** Taiwan's Hospital at Home (HAH) program, initiated in July 2023, enables immobile patients to receive intravenous antibiotic treatment at home. Despite low medical copayments, many patients struggle with high transportation costs, creating barriers to care for low-income and disadvantaged populations, which amplifies healthcare inequality.

**Methods:** Taipei City Hospital's social work team implemented a transportation subsidy program to address this issue. The subsidy is available to patients who meet one of four criteria: existing home care patients receiving transportation aid, low-income households, institutionalized patients placed by the Social Affairs Bureau, or those assessed as financially struggling by social workers. The subsidy covers one round-trip transportation cost per day for up to seven days.

**Results:** In one case, a bedridden patient in Yangming Mountain with a suspected urinary tract infection was recommended for HAH treatment. However, the family faced high transportation costs of around USD 50 per day, totaling \$350 USD for a seven-day course, far exceeding the \$50 medical copay, leading them to opt for hospitalization instead. An 85-year-old low-income woman, initially hesitant to pursue HAH due to transportation expenses, could return home for treatment after a social worker assessed her eligibility and provided transportation assistance. This support allowed her to receive care in her home environment, reducing financial and physical burdens.

**Conclusions:** The transportation subsidy has been instrumental in addressing healthcare inequality, enabling disadvantaged patients to access necessary HAH services without incurring significant travel costs. This initiative underscores the crucial role social workers play in removing financial barriers and promoting equitable healthcare access.

**Keywords:** Healthcare Inequality, Hospital at Home (HaH), Social Work Intervention, Transportation Subsidy, Financial Barriers to Care

# CHALLENGES OF STARTING AN AT-HOME HOSPITALIZATION PROGRAM: THE "SANT PAU A CASA" HOSPITAL-AT-HOME EXPERIENCE

## SOCIAL, ETHICAL AND EQUITY ASPECTS

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**Background and Aims:** At-home hospitalization (AHH) is a growing care model approach for selected hematological patients. A key aspect of launching such a program is estimating census and enrollments. We aimed to assess the challenges encountered in a new single center AHH program

**Methods:** Adult patients with hematological malignancies undergoing autologous stem cell transplantation or high dose chemotherapy were included. Demographic, diagnostic, and outcome data were collected including reasons for ineligibility or patient declination. Patient were considered eligible if received intensive chemotherapy or autologous hematopoietic stem cell transplantation, had an ECOG  $\leq$  2, lived within one hour by public transportation from the hospital, had a 24-hour caregiver available, had an adequate cultural level allowing to collaborate with the nursing team and had a home environment with adequate hygienic and environmental conditions

**Results:** Since the program started in April 2024, a total of 58 consecutive patients have been assessed as potential referrals. Among them, 13 patients could be enrolled as they met the eligibility criteria. Reasons for ineligibility included: not having a 24-hour caregiver in 15 (26%), acute complications in 13 (22%), living >1h from the hospital in 13 (22%) and the temporary closure of the program in August in 4 (7%) of the cases.

**Conclusions:** The most common reason for ineligibility highlighted some potentially modifiable factors, such as the need of a 24-hour caregiver, which could be addressed by enhancing home services through professional support. This underscores the growing need for professional assistance, especially given the evolving dynamics of today's families

**Keywords:** Caregiver, at-home hospital, challenges, autologous stem cell transplant, enrollments

## A VIRTUAL CARE STRATEGY TO REDUCE AVOIDABLE HOSPITAL READMISSIONS AND IMPROVE ACUTE CARE MANAGEMENT AT HOME IN BRAZIL

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Introduction: Patients in Home Hospitalization (HH) face a higher risk of acute care episodes and hospital readmissions. Virtual care offers a promising approach for enhancing acute care management at home. Objective: To evaluate whether a Virtual Ward program can improve acute care management and reduce hospital readmission for HH patients.

**Methods:** A technology-enabled Virtual Ward program was implemented for HH patients in four regions (São Paulo, Rio de Janeiro, Salvador, Brasília) from Sep -2023 to May-2024. Daily virtual rounds by physicians and multidisciplinary team managed acute episodes, with patients monitored via telephone, vital signs tracked, and lab tests or visits conducted as needed. Patients were eligible for discharge after 24h without symptoms.

**Results:** 818 patients and 1,758 acute care episodes were managed. Of these, 1,323 (75.2%) occurred in adults, 357 (20.3%) in children, and 78 (4.5%) in palliative care patients. Among the episodes, 375 (21.3%) involved patients on mechanical ventilation, while 1,383 (78.7%) did not. Acute care episodes were primarily caused by respiratory (36.1%), infectious (29.5%), gastrointestinal (9.9%), neurological (9.3%), cardiocirculatory (7.4%), genitourinary (4%), and other conditions (3.8%). 1,542 episodes (87.7%) were successfully treated at home, while 216 (12.3%) resulted in hospital readmission. During the study period, we observed a 12.5% reduction in hospital readmission rates.

**Conclusions:** Conclusion: The Virtual Ward program improved acute care management at home, with most cases successfully treated without hospital readmission and a 12.5% reduction in readmission rates. These results indicate that virtual care is effective for managing complex acute episodes, reducing the burden on hospital resources.

Keywords: home hospitalization, Virtual care

## EXPERIENCE SHARING ON THE IMPLEMENTATION OF THE HOSPITAL AT HOME (HAH) CARE MODEL IN NURSING INSTITUTIONS FOR HOME HEALTHCARE

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** In recent years, the number of emergency department visits in hospitals across Taiwan has been on the rise, and residents in nursing homes often need to seek emergency care due to acute infections. Therefore, promoting Hospital at home can reduce the need for nursing home residents to be repeatedly transferred to hospitals for acute issues, allowing them to receive medical care in a familiar environment. Replacing acute hospitalization with home healthcare has become an important care model in modern healthcare.

**Methods:** Establishing the HAH Care Team and Home Healthcare Process, Assessment (Patients evaluated by physicians as requiring hospitalization for conditions such as pneumonia, urinary tract infection, or soft tissue infection, but deemed suitable for home care).Case Admission and Care (After obtaining the resident's consent, home healthcare nurses provide in home medical care according to the physician's orders, and the case is closed once the physician evaluates symptom improvement).

**Results:** From August to October 2024, three nursing home residents were admitted, including two with pneumonia and one with a urinary tract infection. All received antibiotic treatment, with treatment durations ranging from 3 to 5 days. There were no deaths, indicating that not being hospitalized did not increase the risk of death.

**Conclusions:** Whether Hospital at home can reduce emergency department visit rates, hospitalization rates, caregiver burden, the impact of case inclusion criteria, and the effects on the home care workforce requires further research and analysis in the future. This could serve as a reference for policy development.

Keywords: Hospital at Home (HaH), Nursing home, Home healthcare

## PIONEERING A COMMUNITY BASED HEART FAILURE VIRTUAL WARD IN SOUTH EAST LONDON WITH THE HELP OF AI ENABLED ECHOCARDIOGRAM

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** We aimed to establish a community-managed heart failure virtual ward with three referral pathways: step-down referrals from hospitals, step-up referrals from GPs and the community heart failure team, and proactive identification of high-risk patients. The focus was on increasing care access, especially for HFpEF patients. We addressed digital literacy to build trust in technology as a care adjunct.

**Methods:** Lewisham, with high heart failure rates due to its diversity and socioeconomic disparity, served as the setting. Our "hospital at home" team included GPs, nurse practitioners, paramedics, and a frailty consultant. Remote monitoring used DOCCLA's digital devices. Referrals came from hospitals, the community heart failure team, and GP practices. We used data-sharing to identify high-risk patients on the Heart Failure register. An AI-based ECG/ECHO device from Cardio-phoenix provided in-home assessments, guiding urgent medication changes, further investigations, or continued community management. A care coordinator facilitated a Quality of Life Heart Failure questionnaire and directed patients to lifestyle services.

**Results:** In this 6-month pilot, 50 patients were recruited (average age 75). Most (71%) had HFrEF, and 29% had HFpEF. The average stay was 11 days. Referral sources included secondary care (39%), primary care/community (32%), and proactive searches (19%). Waiting times for traditional ECHO and outpatient cardiology appointments were reduced. High-risk patients were proactively managed, and patient satisfaction was high, particularly regarding the care navigator's role. Digital technology uptake was greater among BAME communities.

**Conclusions:** This program enhanced primary-secondary care integration, demonstrated the effectiveness of point-of-care ECHO devices, and is now being scaled across South East London.

Keywords: Heart failure, Virtual Ward, Artificial intelligence, Point of care ECHO

# DEVELOPING A SUSTAINABLE VIRTUAL HOSPITAL AT HOME MODEL: LESSONS FROM A FEASIBILITY STUDY

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** The Influenzer model is a virtual hospital at home (vHaH) initiative that merges telemedicine with in-home care as an alternative to traditional hospital admissions. We proposed a randomized controlled trial (RCT) to evaluate its effectiveness rigorously. Before the RCT, a feasibility study was conducted to refine the RCT design; to assess user perspectives; and the initial implementation for successful real-world integration.

**Methods:** From April 2022 to May 2023, the Influenzer model facilitated early discharge for patients with lower respiratory tract infections. Participants used an app to transfer health data to the hospital, where clinicians monitored it via a dashboard with smart alerts for clinical deterioration. Hospital doctors provided video ward rounds, while a mobile nursing team handled tasks like blood sampling and IV treatments. Primary outcomes included recruitment rates, eligibility, patient adherence, dropout rates, data collection, and cost estimation. Secondary outcomes assessed baseline characteristics and program journey. Implementation fidelity was evaluated qualitatively and quantitatively.

**Results:** Of the 1980 screened individuals, 59 were potential participants. Forty-nine were invited, 34 consented, and 19 were eligible. Daily activity adherence was 99%, with no dropouts. Twelve participants completed all required surveys at least partially. Participants were mostly male, with a median age of 65 years. Median program participation was 2 days (IQR 1.5-5), with no severe adverse events

**Conclusions:** We illustrate a data-driven approach to vHaH development. The Influenzer model demonstrated feasibility, high patient adherence, and no adverse events. The challenges identified were addressed before the RCT, ensuring the model's sustainability and adaptability for long-term use.

**Keywords:** Hospital at Home, telemedicine, Early Discharge, feasibility study, complex intervention

# AIDING CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND CONGESTIVE HEART FAILURE ULTRASOUND-GUIDED MANAGEMENT THROUGH ENHANCED POINT OF CARE ULTRASOUND (ACCUMEN-POCUS STUDY)

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Point-of-care ultrasound (POCUS) is a portable, radiation-free and highly sensitive (88%-96%) tool for detecting Congestive Heart Failure (CHF). However, uptake is limited by perceptions of needing extensive training and interoperator variability concerns. This challenge is compounded in Hospital-at-Home (HAH) programs relying on virtual care, where physicians depend on home visits by allied health professionals . We therefore established a 3 aim study: 1) Development and evaluation of a practical training model for Community Paramedics (CPs) to capture lung and IVC POCUS images; 2) Human factors evaluation of usability and accuracy of remotely-interpreted POCUS images on Presuna; 3) a Randomized control trial (RCT) comparing POCUS-enhanced HAH (intervention) to standard HAH (control) care for patients with CHF, Chronic Obstructive Pulmonary Disease, and/or pneumonia.

**Methods:** The ACCUMEN-POCUS team developed a training model for CPs to acquire lung and inferior vena cava (IVC) POCUS images using selected Canadian Point of Care Ultrasound Society online modules, in-person teaching, and asynchronous virtual mentorship from Zedu Ultrasound Training Solutions. Physicians remotely interpreted images uploaded to Presuna's cloud-based platform to support clinical decisionmaking.

**Results:** Our approach enabled CPs to obtain "adequate/ideal" lung images after 10 scans and IVC images after 22 scans. Initial results suggest clinicians perceive added value from CP-obtained POCUS for clinical decision-making. Patients value POCUS, but variably tolerated frequent POCUS, unless their condition acutely changed. Final usability and RCT results will be available after December 2024.

**Conclusions:** The incorporation of remotely-acquired and interpreted POCUS in clinical care is feasible, adds clinical value, and is generalizable to other HAH programs.

Keywords: POCUS, Hospital at Home, Community Paramedics, CHF, COPD

# USING A LEARNING HEALTH SYSTEM APPROACH TO CONDUCT AND SUSTAIN TECHNOLOGY ASSESSMENT FOR HOSPITAL AT HOME PROGRAMS IN BC, CANADA

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** British Columbia (BC), Canada first introduced 2 Hospital at Home (HaH) programs in Victoria and Prince George in 2019. April 2024 saw the expansion to 7 different HaH models throughout BC, from internal medicine to post opsurgical care, mental health, and palliative care. While these programs share common monitoring approaches each also has unique surveillance metrics. Monitoring devices need to be selected judiciously to match essential clinical functions of HaHs to enhance safe and effective patient-centred care.

**Methods:** In June 2024 a BC evaluation team composed of experienced HTA evaluators, HaH interprofessional practitioners, health services and digital health researchers, and patient partners commenced development of a provincial HTA program to evaluate and scale up current and future mass market and medical grade technologies for HaH.

**Results:** Working closely with the Provincial HaH committee, we: 1) established key clinical functions of HaH that digital technologies can help address and use these as selection criteria; 2) constructed a quintuple aim evaluation framework with associated metrics; 3) developed Health Technology Assessment (HTA) methodologies to rigorously conduct usability testing, analysis, and procurement; and 4) implemented a learning health system approach to improve HaH programs .

**Conclusions:** We will share our evaluation framework, HTA approach, and learning health system establishment at this presentation. Based on our experiences, we will discuss our approach sharing HTA amongst different HaH programs to optimize knowledge exchange as part of a learning health system, including the development of a living catalogue of technologies used in HaH including clinician and patient ratings.

**Keywords:** remote patient monitoring, quintuple aim evaluation, health technology assessment

# ENHANCED HOSPITAL@HOME (EH@HOME): ENHANCING SINGAPORE'S VIRTUAL WARD WITH IOT AND AI FOR HOSPITAL-GRADE HOME MONITORING AND TREATMENTS

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Singapore's "Virtual Ward" initiative – Mobile Inpatient Care@Home (MIC@Home) aligns with the principles of Hospital at Home, providing an alternative to hospital admission for patients referred from emergency departments or hospital wards. MIC@Home enables patients to receive 24/7 hospital-grade care at home through teleconsultations and home visits that deliver treatments such as intravenous medication and blood tests. We propose a new Enhanced Hospital@Home (EH@Home) program that enhances MIC@Home by integrating Internet of Things(IoT) and artificial intelligence(AI) technologies for continuous telemonitoring and in-home, hospital-grade assessments and treatments.

**Methods:** EH@Home introduces two synergistic modes of monitoring. First, IoTenabled devices continuously track vital signs like heart rate and oxygen saturation, transmitting real-time data to hospital systems. Second, periodic nurse visits incorporate in-home assessments using smart portable systems. For instance, digital neuropsychological assessments on tablets monitor cognitive function, while depth camera systems assess gait. Al algorithms analyse gait features such as step length, velocity, and cadence. Al also identifies irregularities, such as abnormal heart rates, and monitors long-term trends, like cognitive changes over time. Once clinically validated, these Al-supported procedures can be standardized and integrated into nurse training to ensure consistent hospital-grade care at home.

**Results:** EH@Home is currently under evaluation. Ongoing data collection focuses on assessing the effectiveness of IoT and AI technologies in improving outcomes, timely interventions, and patient management, compared to models like MIC@Home.

**Conclusions:** EH@Home leverages IoT and AI to provide more comprehensive, hospital-grade care at home. Continuous telemonitoring and AI-assisted assessments aim to reduce hospital readmissions and support more precise, proactive care.

**Keywords:** Internet of Things (IoT), Artificial Intelligence (AI), Continuous Monitoring, Virtual Ward, Gait Analysis

# EFFECTIVENESS OF TELEMEDICINE IN MANAGING HOSPITAL-AT-HOME CARE: A META-ANALYSIS AND REAL-WORLD EVIDENCE

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Background: Telemedicine has emerged as a valuable tool for enhancing patient outcomes and reducing healthcare costs, particularly in home-based care. This meta-analysis examines the effectiveness of telemedicine compared to traditional in-person care in four areas: hospitalization length, home visits, patient satisfaction, and onsite management success.

**Methods:** A meta-analysis of four randomized controlled trials (RCTs) was conducted, involving 470 patients (Telemedicine: 252; Control: 358). Outcomes included hospitalization length (2 studies, n = 288), home visits (2 studies, n = 554), patient satisfaction (2 studies, n = 288), and onsite management success (2 studies, n = 610). Standardized mean differences and odds ratios were calculated using a random-effects model, with heterogeneity assessed via the l<sup>2</sup> statistic.

**Results:** No significant differences were found in hospitalization length (SMD = 0.00, p = 1.00) or home visits (SMD = 0.01, p = 0.99). There was a slight, non-significant improvement in patient satisfaction (SMD = -0.90, p = 0.32) and onsite management success (OR = 1.46, p = 0.35). Heterogeneity ranged from low to high (I<sup>2</sup> up to 98%).

**Conclusions:** Conclusion: Telemedicine shows potential for improving patient satisfaction and onsite management, but larger, more homogeneous studies are needed to confirm these benefits. On the other hand, the practical implementation of telemedicine for HaH care in Taiwan, including managing diverse patient populations, integrating with healthcare systems, addressing variability in resources and infrastructure, and overcoming patient compliance and engagement issues, will also be discussed.

Keywords: telemedicine, meta-analysis, real-world evidence, patient outcomes

## THE IMPACT OF DIETITIAN INTERVENTIONS ON IMPROVING RECOVERY OUTCOMES FOR INFECTED PATIENTS IN TAIWAN'S HOME HEALTHCARE PROGRAM

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Taiwan's Hospital at Home (HAH) program, launched in July 2024, primarily serves homebound individuals with pneumonia, urinary tract infections , and cellulitis. Nutritional status is critical for recovery from infections, with well-nourished patients demonstrating better outcomes compared to malnourished counterparts. In hospital settings, dietitian interventions during hospitalization including meal adjustments and nutritional supplementation. However, Taiwan's HAH program currently reimburses only for physicians, nurses, and pharmacists, neglecting the essential role of dietitians. This study aims to evaluate the potential impact of incorporating dietitian home visits into HAH services to improve patient recovery rates.

**Methods:** A literature review was conducted to examine the relationship between nutrition and infection recovery rates in homebound disabled patients. Current HAH reimbursement models in Taiwan and other countries were analyzed to identify opportunities for dietitian integration. Hypothetical models of nutritional interventions in HAH were proposed, focusing on a single reimbursed dietitian visit per treatment course to assess and provide tailored nutritional recommendations.

**Results:** Literature supports the critical role of nutrition in infection recovery, highlighting faster recovery in well-nourished patients. Analysis of international HAH models reveals that some include dietitian support, though specific reimbursement mechanisms vary. Proposed models suggest that incorporating a dietitian visit could reduce recovery times and hospital readmissions.

**Conclusions:** Adding dietitian visits to Taiwan's HAH program might enhance recovery outcomes for homebound disabled patients with infections, A single reimbursed dietitian visit per treatment course, similar to pharmacist interventions, could offer a feasible and impactful solution. Further research is needed to evaluate this model within the HAH framework.

Keywords: Home healthcare, Hospital at Home (HaH), Nutrition

# TECHNOLOGY-DRIVEN INNOVATIONS FOR HOSPITAL AT HOME: DIGITAL HEALTH SOLUTIONS AND REMOTE CARE

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** The successful implementation of Hospital at Home (HaH) models relies on advanced technologies and a holistic approach that delivers acute hospital care, traditionally provided in inpatient settings, directly to patient homes. By leveraging insights and innovations from flagship European projects such as SmartBear, TeleRehab, and ICU4COVID, this work demonstrates the critical need for integrating technology, training, ethics, and systemic enablers to make HaH scalable and sustainable.

**Methods:** These projects advance telemedicine, remote patient monitoring, digital health platforms, and AI-driven decision support systems. They emphasize interoperable digital platforms integrating real-time health data for personalized care and patient empowerment, ensuring secure data exchange to enhance decision-making and care coordination. ICU4COVID showcases telemonitoring technologies extending critical care capabilities to home settings, ensuring continuity and responsiveness for patients needing close monitoring. TeleRehab provides innovative solutions for balance rehabilitation and remote physiotherapy using virtual reality, reducing hospital visits while maintaining therapeutic effectiveness and adherence. These approaches reduce hospital visits while delivering hospital-level therapeutic care at home. SmartBear addresses workforce readiness by training healthcare professionals to adopt and integrate remote monitoring devices, AI-driven analytics, and telehealth workflows into HaH environments.

**Results:** These approaches bridge skill gaps and enable seamless integration of technologies into HaH environments. They scale HaH services by ensuring safety, efficiency, and patient satisfaction while reducing hospital visits and enhancing therapeutic adherence.

**Conclusions:** Together, these initiatives demonstrate how cutting-edge technologies and interdisciplinary strategies enable hospitals to deliver acute care at home, transforming care delivery while improving patient outcomes.

**Keywords:** Hospital at Home (HaH), telemedicine, AI-driven Decision Support Systems, Digital Health Platforms, Patient Empowerment

# ENHANCING PATIENT TRIAGING FROM HOSPITAL WARDS TO VIRTUAL HOSPITALS WITH MACHINE LEARNING

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Virtual wards and Hospital@Home services use remote technology and management to provide hospital-level care to patients in their homes. Safe and efficient use of Virtual Wards requires a way of identifying patients who are at lower risk of clinical deterioration for earlier step-down from hospital. The National Early Warning Score (NEWS) 2 is the standard tool for identifying patient deterioration in adult patients in the NHS. However this is contemporaneous and does not allow prediction of whether a given patient will deteriorate in the coming hours or days. This pilot study was designed to predict future NEWS2 scores in patients in the subsequent 6-36 hours for patients admitted to an Acute Medical Unit.

**Methods:** We developed a machine learning-based method to predict NEWS2 in the next 6-36 hours to help identify patients who can be stepped down to the Virtual Ward safely and effectively. Our model was trained and validated on a dataset of 5,048 patients, with vital signs recorded every six hours, and tested on 1,305 patients.

**Results:** Our model achieved a mean absolute error (MAE) of 0.611, root mean squared error (RMSE) of 0.949, and an R<sup>2</sup> score of 0.822. This means, on average, the model's predicted future NEWS2 score deviates by 0.611 points from the actual score (e.g. predicted NEWS2 is 10, and the actual NEWS2 could be 10±0.611 on average).

**Conclusions:** Our method demonstrates small error margins suggesting the model's predictions are sufficiently precise to guide decisions for earlier and safer 'step-down' of patients into the Virtual Ward.

**Keywords:** virtual wards, Machine Learning, National Early Warning 2 Score Prediction, Electronic Patient Records

# WHY IS IMPLEMENTING REMOTE MONITORING IN HOSPITAL AT HOME (FRAILTY VIRTUAL WARDS) FOR PEOPLE LIVING WITH FRAILTY SO HARD? QUALITATIVE INTERVIEW STUDY

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Some Hospital at Home (HaH) services, especially those referred to as virtual wards, promote use of remote monitoring via technology. Given evidence that remote monitoring has much lower levels of use on HaH services caring for people living with frailty compared with other patient groups, we aimed to explore the views and experiences of HaH stakeholders involved in implementing remote monitoring in frailty virtual wards.

**Methods:** We conducted 42 qualitative interviews with HaH stakeholders involved in the design, delivery, and evaluation of HaH services.

**Results:** Many participants perceived that remote monitoring was only useful for a small sub-group of patients with frailty for a range of medical, practical and social reasons. Remote monitoring required new ways of working from patients, staff and carers. The nature of this work was not always sufficiently well understood, designed, or supported. Procurement practices were also seen to be mis-aligned with service needs, resulting in provision of equipment that was not fit for purpose. A further challenge in implementing remote monitoring in frailty virtual wards lay in tensions between national-level standardisation and enabling local flexibility.

**Conclusions:** Implementing remote monitoring in HaH settings for people living with frailty is challenged by lack of consensus on its suitability for this population, the extent and nature of change in clinical practices and work systems design required, and issues relating to equipment and standardisation. More co-design effort is needed to inform decision-making on remote monitoring in the HaH setting for those with frailty.

Keywords: technology, older adults, telehealth, digital

# AUTOMATED MEDICATION DISPENSING DEVICE IN THE HOSPITAL AT HOME SETTING

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** The introduction of an Automated Medication Dispensing Device (AMDD) in Mayo Clinic's Advanced Care at Home (ACH) program aimed to address challenges in medication management in a hospital at home (HaH) setting. Traditional hospital settings offer standardized processes for medication administration, but the home setting lacks similar automation, leading to logistical issues like multiple deliveries, lost medications, and the inability to track medication administration accurately. Mayo Clinic piloted an AMDD in their Eau Claire, Wisconsin HaH site to improve medication management, storage, and tracking for patients receiving acute care at home.

**Methods:** The AMDD securely stores medications and tracks dispensing through a cloud-based portal, providing real-time updates for the care team. We compared medication administration outcomes between patients using AMDD and those receiving standard unit dose dispensing.

**Results:** showed AMDD significantly improved medication administration timing, reducing the average time difference from scheduled doses from 44 minutes to 26 minutes with the AMDD and increasing the percentage of on-time medication administration. Patients using AMDD also experienced shorter tele-visit durations, allowing nursing staff to efficiently handle tasks.

**Conclusions:** The study's results indicated higher satisfaction among in-person care staff compared to virtual staff, likely due to the improved medication management process. Despite limitations related to the device and study, such as AMDD's inability to manage liquid or gel medications and the study's small sample size, it was concluded that AMDD enhances medication administration safety, efficiency, and staff satisfaction in a HaH setting, suggesting that further large-scale studies could validate broader impact on patient outcomes.

Keywords: technology, Pharmacy, Medication

### FILLING OF INTRATHECAL PUMPS BY HOSPITAL AT HOME DEPARTMENT.

## **TECHNOLOGY AND HAH**

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**Background and Aims:** Intrathecal pumps are intrathecal drug delivery devices. They are made of a catheter placed in the intrathecal space connected to a drug delivery pump. There are 20 ml and 40 ml intrathecal pumps and they have an alarm activated if the pump's medication levels reach a minimum.

**Methods:** These systems have demonstrated benefits over parenterally administered analgesics in the treatment of chronic pain. It is considered a safe and effective device that, in well-selected patients, can be used for prolonged periods, achieving adequate pain control, activities of daily living and a better quality of life in patients with intractable chronic pain. Its installation has advantages and disadvantages. The most recommended drugs are morphine (the only opioid approved by the FDA), hydromorphone, fentanyl, bupivacaine, clonidine, ziconotide, tramadol and baclofen.

**Results:** Although these devices have traditionally been refilled in hospitals, in our Home Hospitalization Unit, the filling of intrathecal pumps has taken place at home for more than 15 years. We are one of the few hospitals in Spain to implement this technique. Since 2006 we have completed 288 periodic refills in 9 intrathecal pumps for the treatment of chronic pain and spasticity, with morphine, tramadol and baclofen. There have been no complications requiring hospitalization.

**Conclusions:** We conclude that home filling of intrathecal pumps can be done safely by a well-trained team, avoiding complications and favoring the comfort of the selected patients.

Keyword: 'intrathecal', 'pumps', 'fill'

## THE USABILITY AND FEASIBILITY OF AUGMENTED REALITY FOR HOME HOSPITAL

## **TECHNOLOGY AND HAH**

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**Background and Aims:** The home hospital delivers hospital-level care at home, but scalability and resource-intensive in-home personnel remain challenging. Augmented reality (AR) offers a solution by allowing users to interact with computer-generated content in their real-world environment, enhancing home hospital care between patient and clinician, remote clinician and in-home clinician, and clinician and family caregiver. Most AR research targets medical education; its role in home hospitals remains unexplored.

**Methods:** We recruited participants aged 60+ with recent hospitalization or significant comorbidities. In their homes, they used the Microsoft HoloLens 2 headset to complete an AR healthcare task list, which included answering a video call, learning hand gestures, and following holographic healthcare task guides such as using a nebulizer and removing an IV.

**Results:** We studied 50 participants: mean age 75.9 (SD, 8.9), 68% female, 76% spoke English. No participants had prior AR experience. All successfully completed the holographic healthcare tasks with minimal task load and high perceived performance, indicated by NASA TLX median scores (IQR): 2 (5) for mental demand, 0 (2) for physical demand, 18 (4) for performance (higher scores refer to higher task load; range 0-20). 94% of participants were comfortable with healthcare providers using AR, 96% supported regular healthcare AR use, and 92% would trust a physician using AR.

**Conclusions:** In-home simulation tests among older adults without prior AR experience were completed with minimal task load, high perceived performance, and excellent patient experience. AR could transform home hospital care by scaling services that previously required multiple in-home visits.

**Keywords:** telemedicine, Digital health, Medical Augmented Reality, Home Hospital Care, older adults

# CAPILLARY BLOOD SAMPLING TECHNOLOGIES AND THEIR APPLICATION IN HOSPITAL AT HOME SETTINGS

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Capillary blood sampling (CBS) is a method of obtaining blood e.g. from the fingertip or the upper arm, which is less invasive and painful than venous blood collection. CBS offers advantages for hospital at home settings, including higher patient satisfaction, lower infection risk, easier handling and storage of samples, and reduction of material and personnel costs. However, to ensure the quality and reliability of CBS samples, the compatibility with high-throughput laboratory analyzers (HTLA) is important. HTLA enable fast and accurate analysis of blood samples with minimal human intervention.

**Methods:** In this poster, various CBS technologies that are suitable for hospital at home settings are presented and the challenges and solutions for their compatibility with HTLA discussed. Additionally, the results of a comparative measurement between venous and capillary blood for relevant markers with an HTLA device for selected CBS technologies are presented.

**Results:** The results showed the differences in the required sample preparation prior to the analysis in HTLA depending on the matrix. The concordance between capillary and venous blood varies with regard to the analyte.

**Conclusions:** CBS is a promising method for hospital at home settings. However, the selection of the appropriate CBS technology is crucial to ensure the compatibility with HTLA and to obtain reliable results. Differences in the natural concentration of analytes in venous blood and capillary blood require the adoption of the reference ranges and official guidelines to enable CBS use for wider applications. Further studies are needed to evaluate the robustness of CBS for additional clinical markers and scenarios.

Keywords: microsampling, capillary blood, minimal invasive, central laboratoy

# GETTING PATIENTS THE RIGHT CARE, AT THE RIGHT PLACE, AT THE RIGHT TIME: LEVERAGING TECHNOLOGY TO ACHEIVE A SEAMLESS AND TIMELY ONBOARDING EXPERIENCE

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** Leveraging the technology available through an integrated medical record system significantly enhances the referral process within Kaiser Permanente, facilitating care without delay.

**Methods:** In an effort to create a "one stop shop" experience for referring providers, we launched a new order panel allowing providers to refer any patient to the correct level of care under the umbrella of services offered by the ACAH program. In one window, this order panel includes a description of each level of care offered by ACAH, a link to eligibility criteria, orders to refer to each level of care, and the ability open a direct line of communication with ACAH physicians. For patients living outside of our service area, a warning pops up indicating we may be unable to accommodate the request. Within the referral itself, a list of modifiable infusion/lab and nursing orders is automatically generated based on the diagnosis selected, further standardizing the care pathway.

**Results:** This design overhaul has helped our team gather essential clinical information for each prospective patient, minimizes the risk of omissions in the care plan, and reduces redundant communication between the ACAH physician and referring provider.

**Conclusions:** We are able to execute our goal of always delivering the right care, at the right place, and at the right time, for all patients in our region.

Keywords: technology, integrated, Communication, clinical

## LEVERAGING TECHNOLOGY TO ENHANCE HOSPITAL AT HOME PROGRAMS

### **TECHNOLOGY AND HAH**

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**Background and Aims:** Hospital at Home (HaH) programs deliver acute hospital-level care to patients in their homes. Effective adoption of technology is critical for overcoming the challenges of limited in-person care. This presentation outlines key technologies to enhance HaH programs based on findings from implementation at National University Health System (NUHS) in Singapore.

**Methods:** Technologies to 1) remotely monitor patients, 2) facilitate virtual care, and 3) streamline operations are emphasized as high-impact solutions.

**Results:** Remote monitoring via devices and wearables enables continuous tracking of vital signs and detection of deterioration. Telemedicine and video visits complement inperson care by allowing check-ins that do not require home visits, while still ensuring patients are coping well at home. Digital health platforms integrate data and unify communication. Workflow optimization through AI scheduling and voice-to-text documentation increases efficiency. Automated medication dispensing improves safety.

**Conclusions:** While benefits are significant, considerations include change management, IT support needs, accuracy of AI, and revenue impacts of reduced inperson care. Thoughtful adoption of technologies such as telehealth, remote monitoring, and care coordination software addresses the challenges of HaH programs and improves outcomes. This presentation provides a framework for technology selection and implementation based on evidence and experience. There are promising opportunities ahead for tech-enabled HaH programs that deliver hospital care in the comfort of a patient's home.

Keywords: technology, NUHS, care coordination, Remote monitoring, Digital health

# ENHANCING ELDERLY CARE THROUGH REMOTE MONITORING TECHNOLOGY IN TAIWAN'S HOSPITAL AT HOME (HAH) PROGRAM: A CAREGIVER AND USER PERSPECTIVE

#### **TECHNOLOGY AND HAH**

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**Background and Aims:** As Taiwan implemented its Hospital at Home (HAH) program in July 2023, integrating remote monitoring technology became essential for improving care for homebound elderly patients. The use of smartwatches and Bluetooth-enabled health measurement systems provides continuous health tracking for patients with conditions like infections, reducing hospital visits and easing caregiver burdens.

**Methods:** The study assessed 19 elderly HAH patients equipped with smartwatches and 90 patients using the Chiline Family Complete Health Measurement System. Smartwatches tracked heart rate, blood oxygen, and sleep patterns, while the Chiline system monitored blood pressure, blood glucose, and electrocardiogram data. Caregivers were interviewed about the devices' usability, reliability, and effectiveness in supporting patient care, along with any challenges encountered.

**Results:** Patients and caregivers reported improved health monitoring and early detection of health concerns through real-time data tracking. One patient's smartwatch detected low oxygen levels, prompting timely intervention. Caregivers appreciated the reduced need for frequent hospital visits and the ability to monitor patients remotely. However, some encountered challenges with device maintenance, data synchronization, and ensuring patient comfort with wearable devices.

**Conclusions:** Remote monitoring significantly eased caregiving duties by providing continuous health insights, allowing timely interventions before conditions worsened. Caregivers emphasized the need for ongoing technical support and reliable device charging to ensure constant data collection. Addressing these issues will further enhance the adoption of remote monitoring technologies, ultimately improving long-term care for elderly patients within the HAH program.

**Keywords:** Remote monitoring, Hospital at Home (HaH), Elderly Care, Smart Health Devices, caregiver burden

## 254 / #404 READMISSION FACTORS: IMPROVING THE QUALITY AND SAFETY OF HOSPITAL AT HOME (HAH)

#### **QUALITY AND SAFETY**

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**Background and Aims:** Hospital at Home (HaH) is a healthcare model that offers a safe and effective alternative to conventional hospitalization. However, some patients may need to be readmitted.

**Methods:** A retrospective analysis was conducted on patients readmitted to the hospital from HaH between March 2018 and December 2023.

**Results:** Of the 2,253 patients admitted to HaH, 155 were readmitted, with 88% of cases being unscheduled. Patients were referred from inpatient care (66%), emergency care (19%), and outpatient care (15%). Majority of patients (57%) were male, with an average age of 73, and family members served as primary caregivers in 95% of cases. The most common reasons for HaH admission were acute infectious diseases (71%), followed by chronic disease decompensation and surgical pathology (19%).

**Conclusions:** The overall readmission rate was 6.88%, with the highest rates from the emergency department (7.49%) and outpatient clinics (10.38%). Surgical patients had a higher return rate (8.37%) compared to medical patients (6.45%). About half of the readmitted patients had spent less than three days in HaH before returning to the hospital, and 61% had spent less than five days. Clinical reasons accounted for 86% of readmissions, while 14% were due to social factors. While readmissions are relatively infrequent, early-stage admissions to HaH may increase the likelihood of return, especially among surgical patients due to the complexity of care and scheduled followups.

Keywords: Hospital at Home, Admission criteria, Readmission